U.S. Department of Education

Washington, D.C. 20202-5335

APPLICATION FOR GRANTS UNDER THE

PROMOTING RIGOROUS CAREER AND TECHNICAL EDUCATION PROGRAMS OF STUDY
CFDA # 84.051C
PR/Award # V051C100006

OMB No. 1830-0568, Expiration Date: 05/31/2011
Closing Date: SEP 07, 2010

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Forms

Narratives

This application was generated using the PDF functionality. The PDF functionality automatically numbers the pages in this application. Some pages/sections of this application may contain 2 sets of page numbers, one set created by the applicant and the other set created by e-Application's PDF functionality. Page numbers created by the e-Application PDF functionality will be preceded by the letter e (for

example, e1, e2, e3, etc.).

Application for Federal Assistance SF-424		Version 02
* 1. Type of Submission [ ] Preapplication [X] Application [ ] Changed/Corrected Application	* 2. Type of Application: [X] New [ ] Continuation [ ] Revision	* If Revision, select appropriate letter(s): * Other (Specify)
* 3. Date Received: 9/7/2010	4. Applicant Identifier:	
5a. Federal Entity Identifier:	* 5b. Federal Award Identifier: N/A	
State Use Only:		
6. Date Received by State:	7. State Application Identifier:	
8. APPLICANT INFORMATION:		
* a. Legal Name: Maryland State Department of Education		
* b. Employer/Taxpayer Identification Number (EIN/TIN): 526002033		* c. Organizational DUNS: 183071471
d. Address:		
* Street1: Street2:	200 W. Baltimore Street	
* City:	Baltimore	
County:	Baltimore City	
State:	MD	
Province:		
* Country:	USA	
* Zip / Postal Code:	21201	
e. Organizational Unit:		
Department Name: MD State Dept. of Education	Division Name: Career & College Readiness	
f. Name and contact information of person to be contacted on matters involving this application:		
Prefix: Ms.	* First Name: Kathleen	
Middle Name:		

* Last Name:	McNerney		
Suffix:			
Title:	Lead Coordinator		
Organizational Affiliation:			
* Telephone Number:	(410)767-0185	Fax Number:	(410)333-2099
* Email:	KMCNERNEY@MSDE.STATE.MD.US		

Application for Federal Assistance SF-424 Version 02

9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

10. Name of Federal Agency:

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.051C

CFDA Title:

Promoting Rigorous Career and Technical Education Programs of Study

*** 12. Funding Opportunity Number:**

84.051C

Title:

Promoting Rigorous Career and Technical Education Programs of Study

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

*** 15. Descriptive Title of Applicant's Project:**

Developing, Implementing, and Assessing the Automotive Technology Program of Study.

Attach supporting documents as specified in agency instructions.

Attachment:
Title : Table of Contents
File : C:\fakepath\Table of Contents.doc

Attachment:
Title : Indirect Cost Rate Agreement
File : C:\fakepath\Provisional Rates - Jul-Dec 2010.pdf

Attachment:
Title :
File :

Application for Federal Assistance SF-424 Version 02

16. Congressional Districts Of:
* a. Applicant: 7 * b. Program/Project: 1-8

Attach an additional list of Program/Project Congressional Districts if needed.
Attachment:
Title :
File :

17. Proposed Project:
* a. Start Date: 11/1/2010 * b. End Date: 10/31/2014

18. Estimated Funding ($):

a. Federal	**$ 1008660**
b. Applicant	**$ 0**
c. State	**$ 328870**
d. Local	**$ 0**
e. Other	**$ 0**
f. Program Income	**$ 0**
g. TOTAL	**$ 1337530**

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

[X] a. This application was made available to the State under the Executive Order 12372 Process for review on 9/7/2010.
[ ] b. Program is subject to E.O. 12372 but has not been selected by the State for review.
[ ] c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

[ ] Yes [X] No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

[X] **** I AGREE**

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:	Dr.	* First Name:	Nancy
Middle Name:	S		
* Last Name:	Grasmick		
Suffix:			

Title:	State Superintendent of Schools		
* Telephone Number:	(410)767-0462	Fax Number:	(410)333-6033
* Email:	NGRASMICK@MSDE.STATE.MD.US		
* Signature of Authorized Representative:		* Date Signed:	

Application for Federal Assistance SF-424 Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

MARYLAND STATE DEPARTMENT OF EDUCATION

Application for

PROMOTING RIGOROUS CAREER AND TECHNICAL EDUCATION

PROGRAMS OF STUDY

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Note: The application follows the guidance issued by the US Department of Education. In a phone conversation with Laura Messenger on September 2, 2010, she indicated that tables were acceptable in single spacing. Therefore, some of Maryland's tables are single spaced.

MARYLAND STATE DEPARTMENT OF EDUCATION
Achievement Matters Most

Nancy S. Grasmick
State Superintendent of Schools

200 West Baltimore Street • Baltimore, MD 21201 • 410-767-0100 • 410-333-6442 TTY/TDD

August 30, 2010

US Department of Education
OCFO/FIPAO/ICG
Attention: Mary Gougisha, Rm 6059
550 12th Street, SW
Washington DC 20202-4450

Reference: Indirect Cost Rate Agreement: 2009-130(A)

Dear Ms. Gougisha:

Thank you for your letter of August 6, 2010. Enclosed per your direction, please find the signed Indirect Cost Rate Agreement for Fiscal Year 2010, updated to include Provisional Rates covering the period July 1, 2010 through December 31, 2010. We kept a copy for our records per your instructions.

Due to the high proportion of contracts included in Maryland's approved Race to the Top application, assessing indirect costs against those contracts would artificially skew the indirect cost recovery. Therefore this agency opts not to assess indirect costs against contracts in our Race to the Top grant.

If you or your staff requires additional information, please feel free to contact Richard Baker at 410.767.4419. We await the final determination of our FY 2010 rate proposal. Thank you for all the assistance and consideration provided in approval of these rates.

Sincerely,

Stephen A. Brooks
Deputy State Superintendent for Finance

Enclosure

cc: Richard Baker

UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE CHIEF FINANCIAL OFFICER

AUG 0 6 2010

Mr. Stephen A. Brooks
Assistant State Superintendent
Division of Business Services
Maryland Department of Education
200 West Baltimore Street
Baltimore, Maryland 21201

Reference: Indirect Cost Rate Agreement No. 2009-130(A)

Dear Mr. Brooks:

The original and one copy of an Indirect Cost Rate Agreement are enclosed. These documents reflect an understanding reached by your organization and the US Department of Education. The rates agreed upon should be used to compute indirect cost for grants, contracts, and applications funded by this Department and other Federal Agencies.

After reviewing the Rate Agreement, please confirm acceptance by having the original signed by a duly authorized representative of your organization and returned within thirty (30) calendar days from the date of this letter to:

US Department of Education
OCFO/FIPAO/ICG
Attn: Mary Gougisha, Rm. 6059
550 12th Street, SW
Washington, DC 20202-4450

The enclosed copy of this agreement should be retained for your files. If there are any additional questions concerning this agreement, please contact Paul Brickman at (202) 245-8012 or by e-mail at paul.brickman@ed.gov.

The next indirect cost rate proposal based on actual data for the period ending June 30, 2010, is due in this office by December 31, 2010. This proposal should be sent to the above address.

Sincerely,

Mary Gougisha

Mary Gougisha
Director, Indirect Cost Group
Financial Improvement and Post Audit Operations

Enclosures

INDIRECT COST RATE AGREEMENT
STATE EDUCATION AGENCY

ORGANIZATION:

Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201

DATE: AUG 0 6 2010

AGREEMENT NO. 2009-130 (A)

FILING REFERENCE: This replaces previous Agreement No. 2009-130 dated September 30, 2009

The purpose of this Agreement is to establish indirect cost rates for use in awarding and managing of Federal contracts, grants, and other assistance arrangements to which Office of Management and Budget (OMB) Circular A-87 applies. The rates were negotiated by the U.S. Department of Education pursuant to the authority cited in Attachment A of OMB Circular A-87.

This agreement consists of four parts: Section I - Rates and Bases; Section II - Particulars; Section III - Special Remarks; and, Section IV -Approvals

Section I - Rate(s) and Base(s)

	Effective Period					Coverage
TYPE	From	To	Rate	Base	Location	Applicability
Fixed	07-01-09	06-30-10	14.3%	1/	All	Disability 2/
Fixed	07-01-09	06-30-10	13.9%	1/	All	Unrestricted 3/
Fixed	07-01-09	06-30-10	12.4%	1/	All	Restricted 4/
Provisional	07-01-10	12-31-10	14.3%	1/	All	Disability 2/
Provisional	07-01-10	12-31-10	13.9%	1/	All	Unrestricted 3/
Provisional	07-01-10	12-31-10	12.4%	1/	All	Restricted 4/

1/ Total direct cost less: medical payments, alterations, renovations, pass-through funds, and subcontracts with administrative fees. Items of equipment are capitalized if the initial acquisition cost is at least $50 (sensitive items) or $100 (non-sensitive items).

2/ For use on Disability Determination Services programs.

3/ For use on Federal programs which do not require the use of a restricted rate as defined by 34 CFR 75.563 and 34 CFR 76.563.

4/ For use on Federal programs which require use of a restricted rate as defined by 34 CFR 75.563 and 34 CFR 76.563.

Treatment of Fringe Benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs. In accordance with Office of Management and Budget Circular A-87, Attachment B (8)(d)(3), payments to separating employees for unused leave are treated as indirect costs.

Section II - Particulars

SCOPE: The indirect cost rate(s) contained herein are for use with grants, contracts, and other financial assistance agreements awarded by the Federal Government to the Maryland Department of Education and subject to OMB Circular A-87.

LIMITATIONS: Application of the rate(s) contained in this agreement is subject to all statutory or administrative limitations on the use of funds, and payment of costs hereunder is subject to the availability of appropriations applicable to a given grant or contract. Acceptance of the rate(s) agreed to herein is predicated on the conditions: (A) that no costs other than those incurred by the State Education Agency were included in indirect cost pools as finally accepted, and that such costs are legal obligations of the State Education Agency and applicable under the governing cost principles; (B) that the same costs that have been treated as indirect costs are not claimed as direct costs; (C) that similar types of information which are provided by the State Education Agency, and which were used as a basis for acceptance of rates agreed to herein, are not subsequently found to be materially incomplete or inaccurate; and (D) that similar types of costs have accorded consistent accounting treatment.

ACCOUNTING CHANGES: Fixed or predetermined rates contained in this agreement are based on the accounting system in effect at the time the agreement was negotiated. When changes to the method of accounting for cost affect the amount of reimbursement resulting from the use of these rates, the changes will require the prior approval of the authorized representative of the cognizant negotiation agency. Such changes include, but are not limited to, changing a particular type of cost from an indirect to a direct charge. Failure to obtain such approval may result in subsequent cost disallowances.

FIXED RATE: The negotiated rate is based on an estimate of the costs which will be incurred during the period to which the rate applies. When the actual costs for such period have been determined, an adjustment will be made in a subsequent negotiation to compensate for the difference between the cost used to establish the fixed rate and the actual costs.

NOTIFICATION TO OTHER FEDERAL AGENCIES: Copies of this document may be provided to other Federal agencies as a means of notifying them of the agreement contained herein.

Section III - Special Remarks

1. This agreement is effective on the date of approval by the Federal Government.

2. Questions regarding this Agreement should be directed to the Negotiator.

3. Approval of the rates(s) contained herein does not establish acceptance of the Organization's total methodology for the computation of indirect cost rates for years other than the year(s) herein cited.

Section IV - Approvals

For the State Education Agency:

Maryland State Department of Education
200 West Baltimore Street
Baltimore, MD 21201

Signature

Stephen A. Brooks
Name

Deputy State Superintendent for Finance
Title

08/30/10
Date

For the Federal Government:

U.S. Department of Education
OCFO/FIPAO/ICG
550 12th Street, SW
Washington, DC 20202-4450

Signature

Mary Gougisha
Name

Director, Indirect Cost Group
Title

AUG 0 6 2010
Date

Paul J. Brickman
Negotiator

(202) 245-8012
Telephone Number

U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Maryland State Department of Edu...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION A - BUDGET SUMMARY

U.S. DEPARTMENT OF EDUCATION FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Fringe Benefits	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
3. Travel	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 0	$ 4,000
4. Equipment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
5. Supplies	$ 3,000	$ 1,500	$ 1,500	$ 1,500	$ 0	$ 7,500
6. Contractual	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 0	$ 140,000
7. Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
8. Other	$ 199,600	$ 199,800	$ 201,000	$ 194,500	$ 0	$ 794,900
9. Total Direct Costs (lines 1-8)	$ 238,600	$ 237,300	$ 238,500	$ 232,000	$ 0	$ 946,400
10. Indirect Costs*	$ 11,222	$ 12,896	$ 12,896	$ 14,446	$ 0	$ 51,460
11. Training Stipends	$ 2,700	$ 2,700	$ 2,700	$ 2,700	$ 0	$ 10,800
12. Total Costs (lines 9-11)	$ 252,522	$ 252,896	$ 254,096	$ 249,146	$ 0	$ 1,008,660

***Indirect Cost Information *(To Be Completed by Your Business Office)*:**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? [X] Yes [ ] No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: 7/1/2010 To: 12/31/2010 (mm/dd/yyyy)

Approving Federal agency: [X] ED [ ] Other (please specify): _____ The Indirect Cost Rate is 12.4%

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

[X] Is included in your approved Indirect Cost Rate Agreement? or, [ ] Complies with 34 CFR 76.564(c)(2)? The Restricted Indirect Cost Rate is 12.4%

ED Form No. 524

U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Maryland State Department of Edu...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	$ 82,440	$ 82,440	$ 72,540	$ 72,690	$ 0	$ 310,110
2. Fringe Benefits	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
3. Travel	$ 2,500	$ 2,500	$ 5,000	$ 3,750	$ 0	$ 13,750
4. Equipment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
5. Supplies	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. Contractual	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
7. Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
8. Other	$ 1,150	$ 1,150	$ 1,150	$ 1,560	$ 0	$ 5,010
9. Total Direct Costs (lines 1-8)	$ 86,090	$ 86,090	$ 78,690	$ 78,000	$ 0	$ 328,870
10. Indirect Costs	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
11. Training Stipends	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
12. Total Costs (lines 9-11)	$ 86,090	$ 86,090	$ 78,690	$ 78,000	$ 0	$ 328,870

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Standard Form 424B (Rev.7-97)

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management, and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. "4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. "1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. '794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. "276a to 276a-7), the Copeland Act (40 U.S.C. '276c and 18 U.S.C. "874) and the Contract Work Hours and Safety Standards Act (40 U.S.C. " 327-333), regarding labor standards for federally assisted construction sub-agreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. "1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. "7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. "1721 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance

of 1975, as amended (42 U.S.C. " 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) " 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. " 290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. ' 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with the provisions of the Hatch Act (5 U.S.C. "1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. '470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. "469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. "2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. "4801 et seq.) which prohibits the use of lead- based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

Signature of Authorized Certifying Representative:
Name of Authorized Certifying Representative: Nancy S. Grasmick
Title: State Superintendent of Schools
Date Submitted: 09/07/2010

Approved by OMB 0348-0046 Exp.

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

1. Type of Federal Action:	**2. Status of Federal Action:**	**3. Report Type:**
[ ] Contract [ ] Grant [ ] Cooperative Agreement [ ] Loan [ ] Loan Guarantee [ ] Loan Insurance	[ ] Bid/Offer/Application [ ] Initial Award [ ] Post-Award	[ ] Initial Filing [ ] Material Change **For Material Change only:** Year: 0Quarter: 0 Date of Last Report:
4. Name and Address of Reporting Entity: [ ] Prime [ ] Subawardee Tier, if known: 0 Name: Address: City: State: Zip Code + 4: - **Congressional District, if known:**	**5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:** Name: Address: City: State: Zip Code + 4: - **Congressional District,** if known:	
6. Federal Department/Agency:	**7. Federal Program Name/Description:** CFDA Number, if applicable:	
8. Federal Action Number, if known:	**9. Award Amount,** if known: $0	
10. a. Name of Lobbying Registrant (if individual, last name, first name, MI): Address: City: State: Zip Code + 4: -	**b. Individuals Performing Services** (including address if different from No. 10a) (last name, first name, MI): Address: City: State: Zip Code + 4: -	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	Name: Nancy S. Grasmick Title: State Superintendent of Schools Applicant: Maryland State Department of Education Date: 09/07/2010	
Federal Use Only:		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal Loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance.

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

APPLICANT'S ORGANIZATION	
Maryland State Department of Education	
PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE	
Prefix: Dr. First Name: Nancy	Middle Name: S
Last Name: Grasmick	Suffix:
Title: State Superintendent of Schools	
Signature: _____	Date: 09/07/2010

ED 80-0013 03/04

Certification of Eligibility for Federal Assistance in Certain Programs

I understand that 34 CFR 75.60, 75.61, and 75.62 require that I make specific certifications of eligibility to the U.S. Department of Education (ED) as a condition of applying for Federal funds in certain programs and that these requirements are in addition to any other eligibility requirements that ED imposes under program regulations. Under 34 CFR 75.60 – 75.62:

I. I certify that:

A. I do not owe a debt, or I am current in repaying a debt, or I am not in default (as that term is used at 34 CFR Part 668) on a debt:

1. To the Federal Government under a nonprocurement transaction (e.g., a previous loan, scholarship, grant, or cooperative agreement); or

2. For a fellowship, scholarship, stipend, discretionary grant, or loan in any program of ED that is subject to 34 CFR 75.60, 75.61, and 75.62, including:

- Federal Pell Grant Program (20 U.S.C. 1070a, et seq.);
- Federal Supplemental Educational Opportunity Grant (SEOG) Program (20 U.S.C. 1070(b), et seq.);
- State Student Incentive Grant Program (SSIG) 20 U.S.C. 1070c, et seq.);
- Federal Perkins Loan Program (20 U.S.C. 1087aa, et seq.);
- Income Contingent Direct Loan Demonstration Project (20 U.S.C. 1087a, note);
- Federal Stafford Loan Program, Federal Supplemental Loans for Students [SLS], Federal PLUS, or Federal Consolidation Loan Program (20 U.S.C. 1071, et seq.);
- William D. Ford Federal Direct Loan Program (20 U.S.C. 1087a, et. seq.);
- Cuban Student Loan Program (20 U.S.C. 2601, et. seq.);
- Robert C. Byrd Honors Scholarship Program (20 U.S.C. 1070d-31, et seq.);
- Jacob K. Javits Fellows Program (20 U.S.C. 1134h-1134l);
- Patricia Roberts Harris Fellowship Program (20 U.S.C. 1134d-1134g);
- Christa McAuliffe Fellowship Program (20 U.S.C. 1105-1105i);
- Bilingual Education Fellowship Program (20 U.S.C. 3221-3262);
- Rehabilitation Long-Term Training Program (29 U.S.C. 774(b));
- Paul Douglas Teacher Scholarship Program (20 U.S.C. 1104, et seq.);
- Law Enforcement Education Program (42 U.S.C. 3775);
- Indian Fellowship Program (29 U.S.C.774(b));
- Teacher Quality Enhancement Grants Program (20 U.S.C. 1021, et seq.);

OR

B. I have made arrangements satisfactory to ED to repay a debt as described in A.1. or A.2. (above) on which I had not been current in repaying or on which I was in default (as that term is used in 34 CFR Part 668).

II. I certify also that I have not been declared by a judge, as a condition of sentencing under section 5301 of the Anti-Drug Abuse Act of 1988 (21 U.S.C. 862), ineligible to receive Federal assistance for the period of this requested funding.

I understand that providing a false certification to any of the statements above makes me liable for repayment to ED for funds received on the basis of this certification, for civil penalties, and for criminal prosecution under 18 U.S.C. 1001.

09/07/2010

(Signature) (Date)

Nancy S. Grasmick

(Typed or Printed Name)

Name or number of the ED program under which this certification is being made:
84.051C - Promoting Rigorous Career and Technical Education Programs of Study

Section 427 of GEPA

NOTICE TO ALL APPLICANTS

The purpose of this enclosure is to inform you about a new provision in the Department of Education's General Education Provisions Act (GEPA) that applies to applicants for new grant awards under Department programs. This provision is Section 427 of GEPA, enacted as part of the Improving America's Schools Act of 1994 (Public Law (P. L.) 103-382).

To Whom Does This Provision Apply?

Section 427 of GEPA affects applicants for new grant awards under this program. **ALL APPLICANTS FOR NEW AWARDS MUST INCLUDE INFORMATION IN THEIR APPLICATIONS TO ADDRESS THIS NEW PROVISION IN ORDER TO RECEIVE FUNDING UNDER THIS PROGRAM.**

(If this program is a State-formula grant program, a State needs to provide this description only for projects or activities that it carries out with funds reserved for State-level uses. In addition, local school districts or other eligible applicants that apply to the State for funding need to provide this description in their applications to the State for funding. The State would be responsible for ensuring that the school district or other local entity has submitted a sufficient section 427 statement as described below.)

What Does This Provision Require?

Section 427 requires each applicant for funds (other than an individual person) to include in its application a description of the steps the applicant proposes to take to ensure equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. This provision allows applicants discretion in developing the required description. The statute highlights six types of barriers that can impede equitable access or participation: gender, race, national origin, color, disability, or age. Based on local circumstances, you should determine whether these or other barriers may prevent your students, teachers, etc. from such access or participation in, the Federally-funded project or activity. The description in your application of steps to be taken to overcome these barriers need not be lengthy; you may provide a clear and succinct description of how you plan to address those barriers that are applicable to your circumstances. In addition, the information may be provided in a single narrative, or, if appropriate, may be discussed in connection with related topics in the application.

Section 427 is not intended to duplicate the requirements of civil rights statutes, but rather to ensure that, in designing their projects, applicants for Federal funds address equity concerns that may affect the ability of certain potential beneficiaries to fully participate in the project and to achieve to high standards. Consistent with program requirements and its approved application, an applicant may use the Federal funds awarded to it to eliminate barriers it identifies.

What are Examples of How an Applicant Might Satisfy the Requirement of This Provision?

The following examples may help illustrate how an applicant may comply with Section 427.

(1) An applicant that proposes to carry out an adult literacy project serving, among others, adults with limited English proficiency, might describe in its application how it intends to distribute a brochure about the proposed project to such potential participants in their native language.

(2) An applicant that proposes to develop instructional materials for classroom use might describe how it will make the materials available on audio tape or in braille for students who are blind.

(3) An applicant that proposes to carry out a model science program for secondary students and is concerned that girls may be less likely than boys to enroll in the course, might indicate how it intends to conduct "outreach" efforts to girls, to encourage their enrollment.

We recognize that many applicants may already be implementing effective steps to ensure equity of access and participation in their grant programs, and we appreciate your cooperation in responding to the requirements of this provision.

Estimated Burden Statement for GEPA Requirements

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1894-0005**. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. **If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to:** U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202-4537.

Applicants should use this section to address the GEPA provision.

Attachment:
Title : GEPA Requirement
File : C:\fakepath\GEPA REQUIREMENT.doc

GEPA REQUIREMENT

The Maryland State Department of Education ensures equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. There are implicit and explicit processes and procedures to ensure equal access and treatment of project participants who are groups that have been underrepresented, based on race, color, national origin, gender, age or disability. Some of the specific processes and procedures include:

- All prospective attendees are from schools and participation organizations that will have access to outreach materials, training supplements, etc. MSDE will make specific outreach efforts that target underrepresented populations in the training.

- All MSDE materials are available in alternative formats for special needs populations

- MSDE will provide technical expertise to ensure special needs and diverse populations are addressed through implementation

- The curriculum and instructional materials will be evaluated based on diversity and underrepresented populations.

- The schools targeted by the grant are low performing and located in poverty areas.

SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
Miss.	Kathleen		McNerney	

Address:

* Street1: 200 W. Baltimore Street

Street2:

* City: Baltimore

County: Baltimore City

* State: MD* Zip / Postal Code: 21201 * Country: **USA**

* Phone Number (give area code)	Fax Number (give area code)
(410)767-0185	(410)333-2099

Email Address:

KMCNERNEY@MSDE.STATE.MD.US

2. Applicant Experience

Novice Applicant [ ] Yes [X] No [ ] Not applicable

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project period?

[ ] Yes [X] No

Are ALL the research activities proposed designated to be exempt from the regulations?

[ ] Yes Provide Exemption(s) #:

[ ] No Provide Assurance #, if available:

Please attach an explanation Narrative:

Attachment:
Title :
File :

Project Narrative

ABSTRACT

Attachment 1:
Title: **Federal POS Grant Abstract** Pages: **1** Uploaded File: **Federal POS Grant Abstract.doc**

Abstract

The Maryland State Department of Education (MSDE) is fully prepared and committed to meet every element and component of the Career Technology Education Rigorous Program of Study Grant Application. The three LEAs selected to participate in implementing the state-developed Automotive Technology Program of Study (AT-POS), represent rural, urban and suburban areas of the state and have the capacity to implement all 10 Framework components by the beginning of Year 2 of the grant. They are fully committed to participate in the implementation of this grant as each can reap benefits for their students, Maryland's economic and workforce development, and postsecondary opportunities for advancement in college and careers.

Maryland's plan for this grant includes full implementation of the AT-POS through: the development of common course syllabi; professional development for AT-POS instructors which includes face-to-face and by electronic technology (Maryland's web-based Perkins application was cited as a best practice by OVAE during their 2010 Federal Monitoring Visit of Maryland); technical assistance for AT-POS to implement the grant and for program certification and recertification sites; seamless transition to postsecondary; and increased performance for students on the end of course tests and applicable Perkins indicators.

Maryland has outstanding teams of industry, secondary and postsecondary partners ready and eager to collaborate in achieving the goals of the grant as well as an effective statewide longitudinal data system which has the capacity to link and share data among systems. The project evaluation, modeled after Project Lead the Way, will certify the constancy of quality program delivery of the AT-POS across the state.

The evaluation system will include student outcome data and postsecondary baseline data.

Project Narrative

ELIGIBILITY

Project Narrative

COMPETITIVE PREFERENCE PRIORITY

Attachment 1:
Title: **Competitive Preference Priority** Pages: **0** Uploaded File: **Competitive Preference Priority.doc**

Competitive Preference Priority – Commitment to the Project

Maryland's (MD) public education system, ranked as the nation's best for a second year in a row by *Education Week's Quality Counts*, is known for having one of the strongest education reform frameworks in the country. Over the past two decades, MD has implemented a strong reform agenda through two waves of reform and achieved national status as a leader in educational excellence. During its first wave of reform (1989 – 2002), MD implemented a comprehensive system of student assessment and accountability that holds schools, Local Education Agencies (LEAs), and the State responsible for student achievement. MD's second wave of reform, 2002 – 2009, significantly increased state funding for public education, added additional LEA accountability, created a statewide curriculum and related instructional tools, and implemented stronger preparation and ongoing development programs for school leaders and teachers. Today, MD is poised for its third wave of reform, and the State Board of Education's mission couldn't be clearer – create a world-class system that prepares students for college and career success in the 21st century. MD has developed a five-pronged strategy that will provide the appropriate challenges and supports to students, educators, and administrators to bring MD's education system to the next level. The strategy includes these five elements:

1. Ensure that all students are fully prepared for college and careers in the 21st century;
2. Build a statewide technology infrastructure that links all data elements with analytic and instructional tools to promote student achievement;
3. Develop and support great teachers and great leaders;
4. Turn around low-achieving schools; and
5. Increase the focus on Science Technology Engineering, Mathematics (STEM).

The following charts delineate the resources Maryland commits to this project from State Leadership funds, non-federal contributions, including in-kind contributions, such as facilities, services and others. These figures are also reflected in the grant budget.

MD will demonstrate commitment to the project through the following resources: **YEAR ONE**

Entity	Description	Amount
MSDE	3 CTE staff members salary and fringe benefits x ½ day per week x 46 weeks per year	$32,000
	3 CTE staff members travel x 3 LEAs + 1 community college @ 5000 miles x $0.50/mi (state rate)	$2,500
LEAs	3 CTE administrators salary and benefits x ¼ day per week x 46 weeks per year	$21,000
	6 CTE teachers salary and benefits x 1½ hours per day x 36 weeks per year	$24,000
Community	1 classroom for professional development (PD) x 1 week	$1,000
College	3 faculty members salary x 18 hours of instruction for professional development	$900
	1 meeting space for State Advisory Committee Annual Meeting	$150
	1 faculty for on-site information session regarding articulation agreement @1,300 miles x $0.50	$650
Other	2 instructor salaries + fringe from Toyota x 24 hrs. of instruction for PD	$360
Partners	State Program Advisory Committee annual meeting of 12 employers/business partners x 4 hours x 1 day/yr.	$2,880
	1 Penn College staff for on-site information session regarding articulation agreement @ 1,300 miles x $0.50	$650
Total		**$86,090**

MD will demonstrate commitment to the project through the following resources: **YEAR TWO**

Entity	Description	Amount
MSDE	3 CTE staff members salary and fringe benefits x ½ day per week x 46 weeks per year	$32,000
	3 CTE staff members travel x 3 LEAs + 1 community college @ 5000 miles x $0.50/mi (state rate)	$2,500
LEAs	3 CTE administrators salary and benefits x ¼ day per week x 46 weeks per year	$21,000
	6 CTE teachers salary and benefits x 1½ hours per day x 36 weeks per year	$24,000
Community	1 classroom for professional development (PD) x 1 week	$1,000
College	3 faculty members salary x 18 hours of instruction for professional development	$900
	1 meeting space for State Advisory Committee Annual Meeting	$150
	1 faculty for on-site information session regarding articulation agreement @1,300 miles x $0.50	$650
Other	2 instructor salaries + fringe from Toyota x 24 hrs. of instruction for PD	$360
Partners	State Program Advisory Committee annual meeting of 12 employers/business partners x 4 hours x 1 day/yr.	$2,880
	1 Penn College staff for on-site information session regarding articulation agreement @ 1,300 miles x $0.50	$650
Total		**$86,090**

MD will demonstrate commitment to the project through the following resources: **YEAR THREE**

Entity	**Description**	**Amount**
MSDE	3 CTE staff members salary and fringe benefits x ¼ day per week x 46 weeks per year	$16,000
	3 CTE staff members travel x 3 LEAs + 1 community college @ 5000 miles x $0.50/mi (state rate)	$2,500
	3 Regional Coordinators salary and fringe benefits x 4 days per year	$4,800
	3 Regional Coordinators travel x 3 LEAs = 1 community college @5000 miles x $0.50/mi	$2,500
	1 CTE Program Manager salary and fringe benefits for fiscal oversight ¼ day per week x 46 weeks per year	$4,500
	1 MSDE Financial Representative salary and fringe benefits 4 hours/month x 12 months	$2,000
LEAs	6 CTE teachers salary and benefits x 1½ hours per day x 36 weeks per year	$24,000
	3 School Guidance Counselors for Assistance with career advisement 1 hr. x 20 students x 36 weeks	$18,000
Community College	1 classroom for professional development (PD) x 1 week	$1,000
	1 meeting space for State Advisory Committee Annual Meeting	$150
Other Partners	2 instructor salaries + fringe from Toyota x 24 hrs. of instruction for PD	$360
	State Program Advisory Committee annual meeting of 12 employers/business partners x 4 hours x 1 day/yr.	$2,880
Total		**$78,690**

MD will demonstrate commitment to the project through the following resources: **YEAR FOUR**

Entity	Description	Amount
MSDE	3 CTE staff members salary and fringe benefits x ¼ day per week x 46 weeks per year	$16,000
	3 CTE staff members travel x 3 LEAs + 1 community college @ 5000 miles x $0.50/mi (state rate)	$2,500
	3 Regional Coordinators salary and fringe benefits x 3 days per year	$3,600
	3 Regional Coordinators travel x 3 LEAs = 1 community college @2500 miles x $0.50/mi	$1,250
	1 CTE Program Manager salary and fringe benefits for fiscal oversight ¼ day per month x 12 months	$2,250
	1 MSDE Financial Representative salary and fringe benefits 4 hours/month x 12 months	$2,000
	1 Assistant Superintendent salary and fringe 4 hours/month x 12 months	$3,600
LEAs	6 CTE teachers salary and benefits x 1½ hours per day x 36 weeks per year	$24,000
	3 School Guidance Counselors for Assistance with career advisement 1 hr. x 20 students x 36 weeks	$18,000
Community College	1 classroom for professional development (PD) x 1 week	$1,000
	1 meeting space for State Advisory Committee Annual Meeting	$150
	1 classroom for two separate one-day follow up professional development sessions	$410
Other Partners	2 instructor salaries + fringe from Toyota x 24 hrs. of instruction for PD	$360
	State Program Advisory Committee annual meeting of 12 employers/business partners x 4 hours x 1 day/yr.	$2,880
Total		**$78,000**

Project Narrative

SELECTION CRITERIA

Attachment 1:
Title: **Selection Criteria** Pages: **0** Uploaded File: **Selection Criteria.doc**

(a) State capacity to implement a rigorous program of study

(1) Build on existing State initiatives and partnerships

Over the past three decades, Maryland (MD) has built a strong foundation of policies, procedures and resource development that has resulted in high quality educational programs and national recognition as a leader in educational excellence. MD's educational system has received several 2010 awards including placing first in the nation, for the second consecutive year, on *Education Week's* annual report card. The report card includes six distinct areas of policy and performance tracked by *Quality Counts*, the most comprehensive ongoing assessment of the state of American education. In the Transition and Alignment area, MD scored an A and ranked number 1. (Appendix A) *Newsweek* ranked MD first in the nation in the percentage of high schools offering, and students taking, college-level courses and it included 98 MD high schools (53%) in the magazine's annual "America's Top High Schools" issue. MD was also selected as a Race to the Top grant recipient. Race to the Top funds will provide the infrastructure for supporting the continued advancement of career and technology education (CTE) reform.

MD's system of CTE is an integral part of high school reform. Since 1992, MD graduation requirements have specified completion of a state-approved CTE Program of Study (POS) as one of three graduation pathways. Beginning in 1993, the State has tracked the performance of Dual Completers, students who complete a CTE Program of Study (POS) and who also meet the academic course-taking preparation required for entrance into the University System of MD (USM). The MD State Department of Education (MSDE) has requested LEAs to make dual completion a priority. This resulted in the percentage of Dual Completers increasing from 13% in 1993 to 48.5% for the class of 2009. In 1995, MSDE, with the help of over 350 representatives from business and industry, established its Career Cluster Framework that guides

the development of CTE POS and informs the State's formal PreK-Adult Career Development Program. MSDE's *Policies and Procedures for the Continuous Improvement of CTE Programs* (Appendix B) require every CTE program to: be guided by an industry/education advisory committee; align with industry standards; apply and extend core academic and workplace knowledge and skills; be organized into a sequential list of courses; and include industry certifications as well as opportunities for early college credit. In 2004, MD has further enhanced its CTE system by identifying and establishing 48 State-developed CTE POS. Program development is led by MSDE staff, organized into ten career cluster teams, (Appendix C) working with industry and secondary and postsecondary partners. MSDE works closely with MD's state workforce development agency, the Governor's Workforce Investment Board (GWIB), to identify new CTE POS that support MD's workforce and economic development needs and to ensure all CTE POS keep pace with industry expectations and prepare students for college and careers. GWIB partners are members of each CTE State Advisory Committee and actively support CTE POS development, the identification of technical skills assessments and professional development for CTE teachers. The Maryland Higher Education Commission (MHEC) is an important representative on the GWIB to ensure the postsecondary link.

In 2007, MD's Governor, Martin O'Malley, made CTE a State priority. Through the appointment of the P-20 Leadership Council's CTE Task Force, he charged it to recommend ways to expand and enhance CTE POS in MD's public high schools. The CTE Task Force established 11 recommendations (Appendix D) for strengthening CTE. Pertinent to this application are the recommendations to increase the number of State CTE POS as well as increase student enrollment and completion. The recommendations have become part of the Governor's Plan for Education, *Student Stat*, and include 15 strategic policy goals for MD which

requires annual reporting on progress through the Governor's Delivery Unit. Strategy six of this plan includes Expanding CTE in MD with the following outcomes reported: MD CTE POS Fully Implemented; CTE POS with at least one Postsecondary Affiliate Partner; CTE Classrooms Assessed to Ensure Alignment to Industry Standards; CTE Graduates Earning Industry Certification/Licensing; Statewide Articulation Agreements for CTE POS; Number and percentage of CTE Students who go on to Postsecondary Institutions. In addition, the Department of Labor, License and Regulation (DLLR) initiative, *Skills2Compete MD* includes goals and accountability reporting for CTE POS and encourages all residents to gain the skills and credentials necessary to obtain jobs with family-supporting wages by obtaining at least two years of education and training past high school. CTE reports on the following outcomes: By 2012, the percentage of CTE graduates with access to industry certification, licensure and/or college credit will increase by 10%; and by 2012, the percentage of CTE graduates meeting standards for Technical Skills Attainment will increase by 10%.

MD's current **Automotive Technology** (AT) POS benefits from the guidance and assistance of a variety of partners including: GWIB, MD Automobile Dealers Association (MADA), the Community College of Baltimore County (CCBC), Montgomery College, Allegany College, the Pennsylvania College of Technology (Penn College), the National Automotive Technicians Education Foundation (NATEF), Automotive Youth Educational Systems (AYES), the National Institute for Automotive Service Excellence (ASE) and a State Program Advisory Committee (PAC) which is comprised of business, industry, government, labor, parents, student, and postsecondary representatives.

(2) POS selection that leads to high-growth, high-demand, or high wage occupations

Every year automobiles become increasingly complex and more technologically advanced. The education of new Automotive Technicians and the continuing education of current Automotive Technicians must keep pace with these rapid advances in vehicle complexity. According to the National Institute ASE, the national organization which certifies both Automotive Technician educational programs and professional Automotive Service Technicians, the motor vehicle repair industry has taken on a new level of sophistication, requiring both advanced technical education and computer literacy.

MD is experiencing an upsurge in new car purchases. A total of 173,000 new vehicle registrations are expected to occur by the end of 2010. This represents a 6.7% increase from 2009. Conversely, a 2008 study by J.D. Powers and Associates, the majority of automobile owners are planning to delay purchasing a new vehicle. Generally, the longer a vehicle is in service, the more likely it will require repair work. These two factors support a strong labor market for Automotive Technicians. The MD DLLR conducts both Statewide and MD Regional job market research and publishes occupational projections. For the 10 year period concluding in 2018, DLLR projects a statewide increase of 20% in new and replacement Automotive Technician employment opportunities. The projected increase for Automotive Technician positions in the three LEAs selected to participate in this project are: Baltimore City Public Schools System (BCPSS), urban, 20%, Baltimore County Public Schools (BCPS), suburban, 30%, and in the Upper Shore, which includes Queen Anne's County Public Schools (QACPS), rural, 42%.

In addition, MD's workforce needs will increase due to Base Realignment and Closure (BRAC). By 2011, MD's BRAC plan will be complete. The increase in MD jobs resulting from BRAC

will include significant numbers of infrastructure positions, such as Automotive Technicians. BRAC is expected to result in an overall increase of more than 40,000 new jobs for MD.

(3) POS is built and sustained with the 10 Framework components

Automotive Technology (AT), one of three POS in the Transportation Technologies Career Cluster, is one of MD's 48 CTE POS. (Appendix E). MSDE's AT-POS matrix is being shared with states as part of the Office of Vocational and Adult Education's (OVAE) guidance on course sequences for POS. The AT-POS was developed following MSDE's legislation and policies and is annually reviewed as part of continuous improvement. MD's AT-POS supports and compliments the state's economic and workforce development strategies. All 10 Framework components are relevant to the AT-POS. Some need to be strengthened and are identified in the grant application.

(i) State and local legislation, rules and regulations, or administrative policies

The Perkins Act, Annotated Code of MD (Education Article §21-101 and §21-201), Code of MD Regulations (COMAR) (Title 13A.04.02 and 13A.04.10), the MD State Plan for CTE, MSDE *Policies and Procedures for the Development & Continuous Improvement of CTE Programs* (Appendix B), and individual LEA policies, guide the development and implementation of the AT-POS. These laws, regulations and policies ensure equal access for every student, including members of special populations. State graduation requirements are specified in regulation and include state-approved CTE POS as one of three pathways from which students must chose. MD has also codified its requirement that every LEA offer a K-12 program of instruction in career development that follows the State Curriculum for this content area. COMAR also includes two incentives to encourage businesses to provide paid and non-paid student work-based learning experiences: State Tax Credits and Worker's Compensation Student Coverage. (Appendix F)

(A) *Funding to promote POS development and long-term sustainability*

To promote POS development and long-term sustainability, several funding sources are available. They include: Perkins formula funds to eligible recipients through the Annual Update to the Local Perkins Application; Perkins competitive grants through the CTE Reserve Fund; Perkins Leadership funds; Workforce Investment Act incentive funds, private sector funds; *American Recovery and Reinvestment Act* funds; local funds and other grants. In addition, some school systems have leveraged STEM grants to support pre-engineering and biomedical POS (Project Lead the Way – PLTW), and every LEA has leveraged General Funds to support overall CTE POS development. Many LEAs include the cost of student technical assessments in their local budgets. The *Bridge to Excellence in Public Schools Act*, signed into law in 2002, provided an increase in State funding to LEAs and requires each to develop an annually updated comprehensive master plan (MP) that describes the goals, objectives, and strategies that will be used to improve achievement for all students and eliminate achievement gaps. Specifically, the legislation requires the LEA to include in its MP the goals, objectives, and strategies regarding the performance of students enrolled in CTE. Strategic investment at the local level is covered at each system's monitoring visit which includes their strategies for POS development and sustainability. Business and industry partners provide financial, equipment, and in-kind support. Dedicated labs/classrooms and teachers further support and sustain POS development and implementation.

(B) *Procedures for design, implementation, and continuous improvement*

Procedures for design, implementation and continuous improvement are outlined in MSDE's *Policies and Procedures for Development and Continuous Improvement of CTE. (*Appendix B) These procedures apply to all MD CTE POS, such as Automotive Technology. MSDE Career

Cluster Teams offer technical assistance to guide implementation and evaluate performance in order to plan for continuous improvement. Each POS must have a PAC consisting of representatives from business, industry, government, labor, parents, students and postsecondary to advise on the development and continuous improvement of the POS based on current industry standards and academic rigor. In the Annual Update to the Local Perkins Application, LEAs and community colleges are required to identify their three lowest performing CTE POS and describe their improvement strategies. The entire Local Application update must align with the Five-Year Local Plan for Program Improvement. In addition, MD conducts monitoring visits to LEAs and community colleges to assess the overall system of CTE, current POS improvement and performance data on CTE POS.

(C) *Policies for participation*

COMAR requires every LEA to provide students with equal access to CTE POS without regard to sex, race, national origin, physical or mental disability, socioeconomic status, academic disadvantages, economic disadvantages, or limited English-speaking ability. Specific strategies and results are included annually in the Perkins reports. In addition, monitoring visits and implementation of the Office of Civil Rights Methods of Administration on-site reviews further reinforce this.

(D) *Individual graduation or career plans*

COMAR mandates each LEA provide a systematic instructional program in career development and decision making in accordance the *MD Career Development Framework*. (Appendix E) Prior to grade 9, all students must develop an individual and academic career plan and update it in subsequent years.

(ii) Ongoing relationships

Ongoing relationships are maintained among education, business, and other community stakeholders that support CTE POS design, implementation, and maintenance. The statewide Transportation Technology PAC (Appendix H) meets annually and focuses on strategies for: supporting POS implementation and maintenance, increasing enrollment/completion (including nontraditional students), developing articulation agreements, providing professional development (PD) opportunities, and increasing student success on the NA3SA end-of-course exams. In addition, meetings of the GWIB, the Governor's P-20 Council, the MD Apprenticeship and Training Council, NATEF, the Regional Manufacturing Council, the MD Workforce Corporation, LEAs, and postsecondary representatives provide additional opportunities for customer and stakeholder input in MD's CTE POS.

(A) Written Memoranda

Written guidelines/memoranda of understanding (MOU) are used to specify the roles and responsibilities of partnership members. Formal articulation agreements between MSDE and postsecondary partner institutions are developed on behalf of the state's LEAs and their students. These documents delineate the responsibilities of MSDE, the college, the LEA, and students in order for students to earn articulated credit. (Appendix I) In 2004, MSDE entered into an MOU with the MADA (formerly the MD New Car and Truck Dealers Association) to support students preparing for careers in Automotive Technology especially students participating in AYES. The focus of the MOU is to increase the number of young women participating in and completing an AT-POS and to encourage dealers to offer internships, job shadowing experiences and to become active in their LEA's AT-POS PAC. (Appendix J) Grant funds will be used to expand upon the

roles and responsibilities of all partnership members through the development of an Implementation Guide.

(B) Analyses of economic and workforce trends

To stay current on local economic and workforce trends, MSDE works with GWIB, PACs and DLLR. These sources, along with the U.S. Department of Labor's O*NET (Occupational Information Network) enable MSDE and PACs to make informed decisions regarding the creation, expansion, or discontinuation of CTE POS.

(C) Linking POS to initiatives for workforce and economic development

By 2018, DLLR projects a statewide increase of 20% in new and replacement automotive technician employment opportunities. By 2011, MD's BRAC plan will be complete resulting in 40,000 new jobs. Not only will there be an increase in BRAC-related careers but in careers that support the infrastructure of these new positions, such as automotive technicians.

(D) Technical and workforce readiness skills

The Transportation Technologies Cluster Team, like all MSDE CTE Cluster Teams, works with a State PAC to identify, validate, and update technical and workforce readiness skills. MD AT-POS instructors must remain current with the updated standards/skills in order to maintain their national NATEF/ASE certification as well as their MD POS program approval status.

(iii) Sustained professional development

MD's Teacher Professional Development Standards, established in 2006, provide the structure for the design, implementation, and evaluation of teacher training. MD professional development (PD) is required to be comprehensive, systemic, and sustained. It must be based on teachers' needs for expertise in pedagogy, content area specific, and guided by the Six Elements of a Plan for Teacher Professional Development in the *MD Teacher Professional Development*

Planning Guide. (Appendix K) In addition to State and LEA-required teacher professional development, NATEF/ASE requires teachers in the AT-POS to complete 40 hours of technical content related PD annually to maintain their ASE certification, and MSDE requires it to keep MD AT-POS approval. MSDE, in conjunction with CCBC and Toyota, provide PD opportunities necessary for MD's AT-POS instructors to meet the annual NATEF/ASE requirements. Grant funds will be used to formalize a PD agreement with a postsecondary institution to form an affiliate partnership. Affiliate partners in other MD POS are postsecondary partners who commit fully to implementing the POS with constancy throughout the state through standardized and sustained PD, program implementation, evaluation, and sustainability. Grant funds will allow PD to be provided to administrators, instructors and faculty in the three participating LEAs and offered, on a space available basis, to others implementing the MD AT-POSs to maximize high-level program implementation, best practices, and constancy statewide. PD will be expanded to include data analysis, using annual CTE Accountability Reports and the NATEF NA3SA end-of-course test results, which provide instructors with the knowledge and tools to make data-driven improvements.

(A) Alignment of academic and technical curriculum

Each MD POS is designed with a recommended integration of academic and technical curriculum, both horizontally and vertically aligned, throughout the secondary school experience and linking to the articulated postsecondary POS. A rigorous matrix of supporting, relevant academic coursework is recommended with each POS. The PD will support the alignment of curriculum from grades 9-12 and include postsecondary opportunities for high school students in the AT-POS. NATEF developed *The Integrated Academic Skills,* a document which is a correlation of technician applied academic skills with selected national standards for English,

Mathematics, and Science. Grant funds will allow MSDE and its postsecondary partner to support curriculum alignment and postsecondary opportunities and incorporate NATEF's recent work in this area into the curriculum, instruction, and formative assessments for the AT-POS.

(B) *Development of integrated academic and CTE curriculum and instruction*

Every MD POS includes a recommended course matrix. (Appendix E). Through this grant, MSDE and its postsecondary partner will integrate NATEF's *Integrated Academic Skills* in the curriculum and provide PD for instructors and faculty in the three participating LEAs and offered, on a space available basis, to others implementing the MD AT-POS.

(C) Teachers and faculty have content knowledge and align curriculum and instruction

MSDE sponsored PD keeps instructors' technical content knowledge current and ensures that instructors are aligning their instruction with NATEF outcomes. Through the grant, MSDE will complete the Brakes common course syllabi by 2010. Common course syllabi for the three remaining automotive areas: Suspension and Steering; Electronic/Electrical Systems; and Engine Performance will be completed by 2014. PD will be provided in each area, ensuring that teachers have the content knowledge for alignment and integration of curriculum and instruction.

(D) Innovative teaching and learning strategies

The PD offered to AT-POS instructors integrates best practices, innovative teaching and learning strategies, differentiated instruction applications, and incorporates new technology. This grant will allow MSDE to establish statewide professional learning communities, online instructor collaboration, and communication mechanisms, such as electronic "Blackboard," the development of common course syllabi, project-based and problem-based learning approaches, and contextualized work-based learning experiences.

(E) Use of assessment data

The AT-POS program-specific NA3SA assessment data is used to help identify teacher PD needs. Analysis of the four tested areas, allows MSDE and its postsecondary planning committee to identify which component of the AT-POS shows the student performance areas requiring improvement and plan teacher PD accordingly. In MD, key components of the high school graduation requirements are the HSAs. Students who do not meet the cut score on the four state assessments are identified for extra help/remediation. Early identification, while there is still time to provide the support, helps students graduate on time. Data analysis has been included in PD to help instructors understand the data and how it can be used for AT-POS improvement.

(iv) *Accountability and Evaluation Systems*

MD has a strong system of accountability to evaluate and report LEA, school, and student-level performance. The CTE accountability system is aligned to the state's accountability system and the Perkins Act requirements. The State's accountability system is expanding and increasing alignment through the full implementation of the MD Longitudinal Data System (MLDS) as a Pre-K-20 system. The MLDS strengthens MD accountability and evaluation systems by connecting MD's 24 school systems, 16 community colleges and four-year colleges and universities. At the secondary level, eight Perkins Core Indicators of Performance are measured on an annual basis for each CTE POS and reported by LEA and POS. The CTE performance indicators for academic achievement, school completion, graduation rate, student placement and non-traditional program completion are incorporated into the MLDS to increase data quality and report capabilities at the LEA and school-level. Data collection and reporting for the technical skill attainment indicator is currently coordinated through the CTE Accountability office however, this measure is in the process of being incorporated into LEA and community college

data collection systems. CTE accountability measures are also incorporated into state-level reporting requirements including the Governor's Delivery Unit (*Stat Education State System*) and the DLLR initiative, *Skills2Compete*. The alignment of CTE outcomes to these federal and state accountability systems supports the expansion and quality of CTE POS in MD.

Annual CTE Accountability reports, generated for LEAs and community colleges, summarize results at the LEA/community college level and at the POS level, including breakout reports for Race/Ethnicity, Special Populations, dual completion, and number of students taking rigorous math and science courses. For each LEA and community college, annual performance targets are established for each Perkins Core Indicator. An improvement plan is required to be implemented for each target not achieved. The CTE Accountability Report highlights the targeted areas for improvement and provides graphs comparing high-performing POS to the three relative lowest-performing programs for several Core Indicators of Performance. As part of the Annual Update to the Local Perkins Application, LEAs and community colleges must target these relative lowest-performing programs for improvement. As required in the Perkins Act, monitoring visits are also conducted for all LEAs and community colleges receiving Perkins funds. The primary purpose of the visits is assessment of the system of CTE education, including identification of areas of strength and opportunities for improvement.

(A) Valid and reliable data on student outcomes

Student outcomes for the AT-POS include both academic and technical achievement measures based on valid and reliable assessments. Academic achievement is measured using end-of-course assessments (HSAs) in English/Language Arts and Mathematics. These state assessments are graduation requirements for all students, including CTE POS students, and have been administered since the 2005-2006 school year. The on-going development and validation

process for HSA assessment items is coordinated through MSDE. In addition, assessment results are centrally processed and verified by MSDE, with item analysis to ensure valid and reliable measures. Individual student results are reported as part of the State's computation of adequate yearly progress (AYP).

The technical achievement measure for AT-POS students is based on NA3SA end-of-course tests. These tests are developed, administered, scored, and monitored on a national basis by NATEF. The NA3SA end-of-course tests include four specific content areas: Brakes, Steering and Suspension, Electrical/Electronics, and Engine Performance. Each assessment is aligned to industry standards, including content knowledge, skills, and demonstration of abilities required by the industry. To increase validity and ensure reliability of these assessments, MD requires each AT-POS to be NATEF certified, and instructors to be ASE certified. The NATEF program certification includes a review of program implementation, alignment with NATEF standards, equipment and resources. The AT-POS requires each high school program to remain NATEF certified and to report student Technical Assessment results on each end-of-course exam. This grant will support three LEAs in achieving these standards and ensuring students have access to valid and reliable technical assessments.

(B) Timely data

The outcome data for the NA3SA end-of-course tests for the AT-POS are provided on a timely basis to MSDE, LEAs, and AT-POS instructors. Individual student online NA3SA test takers receive instantaneous electronic results on their test-taking performance. All four end-of-course tests are administered in the spring and fall semesters. In addition, annual CTE Accountability Reports, generated for all LEAs and community colleges, summarize CTE enrollment and outcome results at the LEA/community college level and at the POS level, including breakout

reports for Race/Ethnicity, Special Populations, dual completion, and number of students taking rigorous math and science courses.

(v) Content standards

National content standards will be fully integrated into MD's current State Curriculum for all content areas. The content standards for MD's AT-POS defines what students are expected to know and be able to do to enter and advance in college and careers and incorporates NATEF's extensive list of prioritized student tasks for each course. The task lists are updated by NATEF every three years. The course matrix shows the alignment of technical content to academics and identifies the pathway to prepare students for college and careers.

(A) Developed and continually validated content standards

Along with NATEF's updates, business and postsecondary partners also provide industry updates and recommendations to the State's Transportation Technologies PAC and local PACs. Through this grant, MSDE will establish a systemic approach to continuously validating the AT-POS content standards.

(B) Incorporate essential knowledge and skills

CTE students are expected to meet state-established academic standards based on MD's high school core learning goals and state curriculum. These standards identify the essential skills and knowledge students need to know and be able to do in Grades 9-12. The standards cover a large set of content areas including: Algebra/Data Analysis, Government, Biology, and English. In order to graduate, all MD students must pass a series of HSAs that measure school and individual student progress toward MD's High School Core Learning Goals. CTE integrates standards-based academic and technical skills with MD's *Skills for Success* which include communication, critical thinking and problem-solving skills.

(C) Rigorous knowledge and skills

All MD CTE students are taught the same coherent and rigorous content aligned with challenging academic standards as are taught to all other students, and expected to acquire the prerequisite skills for entry into postsecondary education. CTE students are encouraged to take additional rigorous math and science courses and meet USM admissions course-taking requirements in order to become "dual completers." In 2010, nearly half of all CTE graduates completed the coursework necessary for becoming dual completers. Data on dual completion and rigorous course participation is included as part of each LEAs accountability report.

(D) Internationally benchmarked, to the extent practicable

In CTE, to the extent practicable, MD POSs are benchmarked internationally to ensure students are prepared to compete globally. MSDE works with internationally-based Toyota to provide regular professional development to MD's AT-POS instructors. MSDE's postsecondary partner, CCBC, collaborates with its globally operating industry partners, General Motors, Toyota and Ford, to provide specialized professional development sessions to MD's AT-POS instructors. AT-POS students are encouraged to take higher-level math, become dual completers, and pass all four NA3SA technical assessments in order to earn a full college semester of articulated credits - up to 18 credits depending upon the postsecondary institution (Appendix I).

(vi) *Course sequences transition to postsecondary*

The course matrix is a sequence of non-duplicative content aligned with postsecondary AT-POS requirements. PD for AT-POS instructors includes areas where students require additional help/remediation in order to improve their ability to successfully transition to college and careers (Appendix E).

(A) Course sequence plans map academic and career and technical courses

The AT-POS includes a program sequence matrix that maps required CTE courses as well as recommended academic courses for students enrolled in the AT-POS (Appendix E).

(B) Course sequence plans provide foundation knowledge and progress to more specific courses

Course sequence plans for all MD POSs begin with a foundation course that provides broad foundational knowledge and skills. Subsequent courses progress to more occupationally specific content that provides the knowledge and skills required for entry into postsecondary education or the workforce. The AT-POS course sequence begins with the least technically complex/challenging (Suspension and Steering), to most technically complex/challenging (Engine Performance) (Appendix E). Grant funds will be used to develop common course syllabi for each course and an Implementation Guide for AT-POS constancy across the state.

(C) Opportunities for earning postsecondary credit

State Articulation Agreements provide AT-POS students with opportunities to earn postsecondary credit at CCBC, or Penn College, (Appendix I) for course work completed in high school. To obtain the credits, each college requires specific actions including passing the four AT-POS courses, passing the NA3SA end-of-course tests exams, and meeting the college's admission requirements.

(vii) Formal credit transfer agreements

The state currently has two formal statewide credit transfer (Articulation Agreements). (Appendix . These agreements provide a seamless opportunity for students to earn up to a semester's worth of credits. This grant will enable MSDE to investigate and establish additional statewide articulation agreements with Montgomery College and other institutions in the Mid-Atlantic region.

(A) Systematic, seamless process for earning college credit

MD requires all approved POS to have an articulation and/or transcript credit agreement. Some are developed at the local level and others are done on a statewide basis. Currently, the AT-POS has two statewide articulation agreements, with a two-year and four-year institution, which provide AT-POS students with an opportunity to earn a semester's worth of credits.

(B) College credit earned is recorded

Both AT-POS articulation agreements outline responsibilities for the four stakeholders: LEAs, students, colleges, and MSDE. Once the articulated credit is retrieved by the student, it is recorded on that student's college transcript. Beginning with the Class of 2010, CCBC and Penn College will provide a list of student credits awarded each spring to MSDE.

(C) Expectations and requirements for teachers and faculty

All teachers and programs must maintain NATEF/ASE certifications, and LEAs and teachers must remain compliant with the program requirements outlined in the AT-POS. The articulation further documents each partner's agreements which include addressing course prerequisites, postsecondary admission requirements, and the credit transfer process (Appendix I).

(viii) Career counseling and academic advisory services

Every MD LEA is required to offer a K-12 program of instruction in Career Development. Organized like a state curriculum, the *MD Career Development Framework,* (Appendix G) which is based on standards from the National Career Development Guidelines, identifies six content standards for student engagement in the processes of career development: self-awareness; career awareness; career exploration; career preparation; job-seeking and advancement; and career satisfaction and transition. The standards break out into indicators and objectives and build knowledge and skills across grade bands—PreK- postsecondary/adult. This systematic instructional approach aligns with the MD State Curriculum for the academic content

areas and incorporates MD career clusters and CTE POS. In addition, students in grades 8 - 12 develop and update an individual academic/career plan as called for in COMAR (13A.04.10.01). The plan will include either an academic or CTE POS sequence they will follow and includes postsecondary education, certification opportunities, assessment results, and earned college credit. Counseling and advisement is integrated into the overall fabric of the school through a continued PD development series. *The MD Career Cluster Framework*, which include non-traditional career options as well as the full range of career opportunities at all education levels, has been distributed widely across the state.

(A) Counseling standards

School counseling goals are outlined in COMAR and serves as MD's foundation. The American School Counselors Association (ASCA) National Standards provide guidance for the development of school counseling program plans. When providing career counseling and advisement, counselors and teachers are guided by the *MD Career Development Framework,* which includes the six content standards from the National Career Development Association.

(B) Access to up-to-date information

LEA CTE directors keep counselors informed about CTE POS through workshops, meetings, and correspondence. MD hosts an annual PLTW counselor conference. This grant will enable MSDE to expand the PLTW conference to include AT-POS information. This will provide tools and materials to better inform counselors about AT-POS opportunities as they assist students in their decision-making.

(C) Tools to help students learn about postsecondary and career options

MD developed instructional materials to support implementation of the *Career Development Framework* using a systemic approach across education levels. For grades 7- 12,

counseling/advisory resources are grade-specific and are structured around four components: counseling; school-based activities; career-based activities; and postsecondary planning. MD's high schools hold student advisory periods monthly, bimonthly, and sometimes weekly. Led by teachers and peer leaders, students in advisory groups receive personalized guidance and support in study skills, life skills, and updated information on careers, career development and CTE POS. MD provides PD for school staff, postsecondary faculty, and parents on a regular basis. CCBC and Penn College faculty visit AT-POS classrooms to meet students and share information about their programs and career opportunities in the automotive industry.

(D) Identification of career interests and aptitudes

Every middle and high school counseling center provides students access to a number of high quality career interest inventories such as Bridges and Naviance. Counselors and advisory mentors assist students in using the results of the inventories to create six-year academic and career plans.

(E) Parent information and resources

Parents receive CTE information online, in newsletters, CTE POS brochures, at PTA meetings, Open Houses, and other venues (Appendix L). LEAs provide information about postsecondary opportunities and scholarships, the articulation process, the value of technical assessments and more. Representatives from the Automotive Programs at CCBC and Penn College frequently meet with parents and students at Open Houses to review the AT-POS, admission requirements, and financial aid.

(F) Web-based resources for financial assistance

MHEC hosts a helpful financial assistance website for MD parents and students with detailed information on how to apply for financial aid, tips for completing the FASFA, information about

MD grants and scholarship opportunities and links to many other resources. School counselors supplement this list with a number of other helpful sites listed on school websites and in parent newsletters. High schools often arrange for financial aid representatives to assist parents and students in completing FASFA applications on site. The new financial literacy requirement will provide additional financial aid resources for students and their families.

(ix) Innovative and creative instructional approaches

The adoption of more rigorous CTE POS require increased integration of academic and technical skills/instruction and require CTE instructors to work more closely with their academic colleagues on blended and differentiated instruction.

(A) *Interdisciplinary teaching teams*

LEAs in MD provide PD for instructors on blended instruction bringing teams of academic and CTE teachers together. A number of MD's CTE tech-centers offer higher-level math and science classes on site. Transition Coordinators work with CTE instructors on strategies for teaching rigorous content to students with disabilities; ESOL teachers provide strategies for working with English Language Learners (ELL).

(B) Work-based, project-based, and problem-based approaches

Work-based learning (WBL) is a requirement of all MD CTE POS. CTE POS engage students in authentic, "real world" tasks with open-ended projects and problem-solving scenarios frequently having more than one approach or answer that simulate professional situations.

(C) Team-building, critical thinking, problem-solving and communication skills

In the AT-POS classroom, the instructor often acts as a facilitator or coach; students work in cooperative groups for extended periods of time and seek out multiple sources of information using online sources and automotive manuals in order to solve/fix a particular problem. This instructional approach fosters team-building and problem-solving skills.

(x) Valid and reliable technical skills assessments

In 2009, NATEF; SkillsUSA; and AYES collaborated to create end-of-course student tests that align to each of the National Institute for ASE certification areas and the four courses that comprise the MD AT-POS. The Technical Skill Assessments used for the AT-POS are the four NA3SA end-of-course tests: Brakes; Steering and Suspension; Electronics/Electrical; and Engine Performance. These tests were developed by the National Institute for ASE and are appropriate for evaluating students who are near the end of their studies in the areas of Automotive Service Repair.

(A) Third party assessments

The NA3SA end-of-course tests are national, independent, third party technical assessments based on industry standards and aligned to each of the courses that comprise the MD AT-POS. These tests are secure, administered online, and must be proctored by a responsible adult other than the instructor. The tests are updated on a regular basis by NATEF in collaboration with its national automotive industry partners. For each NA3SA test passed, students receive an industry recognized ASE Student Achievement Certificate.

(B) Student attainment of technical skill proficiencies at multiple points during a POS

For each course in the AT-POS, every student is required to successfully complete a specified percentage of "Priority 1," "Priority 2," and "Priority 3" hands-on tasks in the lab/shop, known

as the "Automobile Task List." At the end of each course, the students are required to take the appropriate NA3SA end-of-course test. Since the test is administered online, the student's pass rate is reported at the end of the test. Tests are administered each fall and spring.

(C) *Performance-based assessment items*

Every three years, NATEF/ASE convenes a group of national automotive industry experts to review and recommend updates to the NATEF/ASE national standards. Based on this review, the NA3SA test questions are also revised to reflect workforce readiness skills. Many of the NA3SA assessment items incorporate many performance-based (such as scenario-based) questions. These assessments cover the range of knowledge and technical skills required of entry-level Automotive Technicians.

(D) Awarding of credits or special designation on the high school diploma

For each NA3SA test passed, students receive an industry recognized ASE Student Achievement Certificate from NATEF. AT-POS students who successfully complete all four required courses of the MD AT-POS, with a "B" or better in each course, and pass all four NA3SA assessments, are eligible to receive up to 18 credits toward the AT AAS Degree at the CCBC-Catonsville Campus or up to 15 credits at Penn College toward the AT AAS Degree; AT Two-Year Certificate; or AT Management BS Degree (Appendix I). Students who successfully complete the AT-POS become high school graduates as a CTE completer.

(b) Capacity of Statewide Longitudinal Data System

MD's commitment to developing and using data systems to improve education is highlighted by the 2010 MD General Assembly's passage of Senate Bill 275, which established a statewide MD Longitudinal Data System Center as an independent unit of state government. In continuing to build out its longitudinal data system, MD will take advantage of its collaborative relationships

with its 24 local school systems and the progress they have made with their own data systems. MD recognizes that it cannot move to world-class performance in its schools unless it has a robust data infrastructure that gives all stakeholders – administrators, principals, teachers, parents, students, policymakers, and researchers- timely access to easy-to-understand information. Having such a data system in place and easily accessible provides the essential foundation of information that will allow MD to implement its reform priorities.

The current MD Statewide Longitudinal Data System (MLDS) consists of eight major subsystems including: (1) statewide web-based data-collection subsystem, (2) statewide student ID assignment subsystem, (3) statewide teacher ID assignment subsystem, (4) several data repositories designed for longitudinal data storage, (5) public K-12 school and Adequate Yearly Progress (AYP) performance-reporting web sites, (6) a business intelligence analysis subsystem, (7) statistical data quality assurance subsystem, and (8) a SAS educational performance statistical analysis subsystem. The MLDS has addressed 100 percent of the America COMPETES Act core data-processing requirements, with 10 of 12 requirements currently operational, one under development to be implemented over the next 12 months, and another in progress and scheduled for completion in December 2010.

Under a 2009 SLDS grant from the U.S. Department of Education, MSDE staff are expanding data collections and reporting capabilities of all MLDS subsystems. The next major data project scheduled is the development of a PreK-20 subsystem. MD has been granted a Race to the Top award to fund this and other reform initiatives. Implementing a PreK-20 data warehouse component will result in the State's achieving all longitudinal system functionality outlined by the America Competes Act, and the 10 State actions to ensure effective data use as identified by the Data Quality Campaign.

MLDS Processing Capabilities in Meeting America COMPETES Act

	Data Processing Requirements	*Status of MLDS Achieved*
1.	A unique statewide student identifier	*Achieved*
2.	Student-level enrollment, demographic, and program participation information	*Achieved*
3.	Student-level information about the points at which students exit, transfer into, transfer out of, drop out of, or completes PreK-16 education programs	*Achieved*
4.	Capacity to communicate with higher education data systems	*Achieved*
5.	State data audit system assessing data quality, validity, and reliability	*Achieved*
6.	Yearly test records of individual students with respect to assessments under section 1111(b) of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6311(b)	*Achieved*
7.	Information on students not tested by grade and subject	*Achieved*
8.	A teacher identifier system with the ability to match teachers to students	*In progress; scheduled for completion in December, 2010*
9.	Student-level transcript information, including information on courses completed and grades earned.	*Under development, to be piloted by an early adopter LEA by September 2011 and completely implemented by 2014*
10.	Student-level college-readiness test scores	*Achieved*
11.	Information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework	*Achieved*
12.	*Other information determined necessary to address alignment and adequate preparation for success in postsecondary education*	*Achieved*

As documentation to support the summary table provided above, the following is submitted as evidence for each of the America COMPETES Act elements included in the MLDS:

Element 1: MD's Unique Student Identifier System (USIS) is a web-based, role-based access system that allows local school districts to obtain unique student identifiers on demand by uploading individual student-level batch files with download capability or via web-based data entry. This web site requires authorized password authority.

Element 2: The MLDS produces aggregate enrollment, demographic, and program participation information from individual student-level data from 2000 to the present, as published on the MD Report Card web site: www.mdreportcard.org.

Element 3: The MLDS produces aggregate dropout and transfer data from individual student-level data from 1993 to the present, as published on the MD Report Card web site. MD and high-school graduation data are then compared to postsecondary data by preparing the Student Outcome and Achievement Report (SOAR) published on the MHECs web site: www.mhec.state.md.us. .

Element 4: MD currently communicates with higher-education data systems through SOAR. MD provides graduation data to MHEC along with data for students who did and did not complete a college-preparatory curriculum in high school. The SOAR also provides data on remedial courses required of high-school graduates when they enter one of the State's institutions of higher education. The state is pursuing a contract with the National Student Clearinghouse that provides the ability to use its Student Tracker data system to monitor enrollment activity for both in- and out-of-state postsecondary institutions.

Element 5: MD assesses data quality, validity, and reliability within its operational data-capture systems. During data capture, basic valid value checks and cross-row validations are included.

Statistical process control is applied to aggregate metrics utilizing a Z-test that compares the current year's data to the average of the five previous years' data. The National Psychometric Council (a team of national psychometric experts) performs validity and reliability steps for all assessments, and a Technical Report is published for each administration of each assessment. Quality-assurance processes to validate aggregate formulas occur within two separate programming environments to ensure the same results are derived. Random samples of data are provided to the auditing department for on-site visits of student records.

Element 6: The MLDS maintains individual student test records for all assessments and calculates aggregate totals from individual student test records for AYP results published on the MD Report Card web site.

Element 7: MD captures information on individual students not tested by grade and subject and maintains the information within the MLDS. These data are aggregated and reported in two EdFacts data files: N004 Children with Disabilities (IDEA) Not Participating in Assessments — Reason for not Participating in Assessment; and N081 Assessment Participation — Participated and Did Not Participate. On the MD Report Card web site, Non-Participant Counts and Non-Participation Percentages under AYP Reading and Math Participation are published at the state, school system, and school levels.

Element 8 and Element 9: In progress

Element 10: MD currently presents ACT, SAT, PSAT, and AP results at the school, LEA, and state-level on its MD Report Card web site.

Element 11: The SOAR relies on two sets of data — the academic performance data (collected directly from the colleges and universities) and the SAT/ACT data — to examine the relationship between students' academic achievement and experiences in high school and how they do during

their first year in college. Specifically, the report includes students who graduated from MD high schools and enrolled at an in-state college or university. SOAR also examines the long-term graduation and transfer patterns of students who enrolled at public colleges and universities. The report contains four separate sections. The first examines the differences between the college performance of students who did and did not complete a college-preparatory curriculum in high school, as indicated by the self-reported SAT/ACT data. The second section contains the results of a multivariate regression analysis that attempts to identify factors that best predict student performance during the first year of college. The third section examines trends since 1997–98. The final section of the study presents the four-year graduation and transfer rates for students who enrolled in community colleges after graduating from high school, and the six-year graduation rates for students who enrolled in public four-year institutions after completing high school. The graduation rates are based on whether students completed a college-preparatory curriculum in high school. The SOAR is accessible on the MHEC's web site.

Element 12: MD already shares data with the State's Department of Human Resources, Department of Juvenile Justice, Department of Public Safety, and higher-education institutions, and is working to develop Memoranda of Understanding (MOUs) for data sharing with the Department of Labor. Existing MOUs are in place for the current data-sharing activities.

(c) Local implementation plan

(1) & (2) *LEA identification and LEA's capacity including Urban, Suburban and Rural LEAs*

The three LEAs MSDE has identified to participate in the project are: **Baltimore City Public Schools System – Urban**, **Baltimore County Public Schools – Suburban,** and **Queen Anne's County Public Schools – Rural**. The **postsecondary partner is Community Colleges of Baltimore County (CCBC)**.

Baltimore City Public Schools System – Urban LEA

Baltimore City Public Schools System (BCPSS), an urban LEA, was selected to participate in the grant because of the projected 20% growth in Automotive Technician jobs by 2018. BCPSS has one AT – POS that will be NATEF certified by the beginning of Year 2 of the project.

Key AT – POS data points include: 2009 enrollment = 47, down from 53 students in 2008, 2009 graduation rate = 68.75% (11/16), and completion rate = 68.75% (11/16), both below the LEA's overall rates by 28.17% and 21.88% respectively. The academic attainment rate in English is 81.82% (9/11) and 81.82% (9/11) in Algebra. Technical skill attainment is 0% (0/16). Two of the five indicators are above the LEA average. There are opportunities for improvement in all measures, but particularly in graduation, completion and technical skill attainment.

BCPSS will earn NATEF certification and adopt the MD AT – POS prior to Year 2 of the grant. Teachers participate in the MSDE sponsored PD to gain full knowledge and understanding and the ability to deliver the MD AT – POS consistent with the common course syllabi so that students are adequately prepared to sit for, and be successful on, the NA3SA end-of-course tests offered by NATEF. In addition there will be an increase in the data outcomes, both the numerator and denominator, and overall performance for the above mentioned core indicators of performance, and students will be prepared to seamlessly transition to college and careers by the end of the grant period. MSDE will provide technical assistance to help BCPSS show improvement in all areas. By the end of the grant period, projected enrollment for grade 11 = 37 students, grade 12 = 23 students, for a total of 60 students.

Baltimore County – Suburban LEA

Baltimore County Public Schools (BCPS), a suburban LEA, was selected to participate in the grant because there is projected growth in Automotive Technology jobs of 30% for Baltimore

County by 2018. BCPS offers four AT-POS, which are all NATEF certified and have adopted the MD AT-POS.

Key AT-POS data points include: 2009 enrollment = 148 students, up from 83 students in 2008. 2009 graduation rate = 98.28% (57/58), completion rate = 98.28% (57/58), both above the LEA overall rates. The academic attainment rate in English = 77.19 (44/57), (6.78% below the LEA overall rate) and 91.23 (52/57) in Algebra. The 2008 Placement rate is 83.33% (5/6), and the technical skill attainment is 20.69% (12/58). Although five of the six indicators are above the LEA average, there are opportunities for improvement in English, student placement, and technical skill attainment.

As a grant participant, all AT-POS instructors will participate in the MSDE-sponsored PD to gain full knowledge and understanding and the ability to deliver the MD AT-POS consistent with the common course syllabi so that students are adequately prepared to sit for, and be successful on, the NA3SA end-of-course tests offered by NATEF. In addition there will be an increase in the data outcomes, both the numerator and denominator, and overall percent increase for the above mentioned core indicators of performance, and students will be prepared to seamlessly transition to college and careers by the end of the grant period. MSDE will provide technical assistance to help BCPS show improvement in all areas. By the end of the grant period, projected enrollment for grade 11 = 100 students, grade 12 = 75 students, for a total of 175 students.

Queen Anne's County Public Schools—Rural LEA

Queen Anne's County Public Schools (QACPS), a rural LEA, was selected to participant in this grant because their AT-POS is in transition. Due to significant staff changes there are many opportunities for improvement. As one LEA on MD's rural Upper Shore region, this area is

poised for a 42% increase in Automotive Technician jobs by 2018. Key AT-POS data points include: 2009 enrollment = 34 students, up from 24 students in 2008. 2009 graduation rate is 100% (7/7), completion rate = 87.5% (7/8). The academic attainment rate in English is 71.43% (5/7) and in Algebra 71.43% (5/7); both are below the LEA overall rate by 11.57% and 16.04% respectively. The 2008 Placement rate is 40% (2/5), and the technical skill attainment is 0% (0/8). There are opportunities for improvement in placement, English, Algebra, and technical skill assessment. The program is NATEF certified. As a grant participant, the LEA will adopt and implement the MD AT-POS no later than the beginning of Year 2 of the project and maintain constancy in the implementation. Through participation in the MSDE-sponsored PD, the instructor will gain full knowledge and understanding, and the ability to implement the MD AT-POS consistent with the common course syllabi so that students are adequately prepared to sit for, and be successful on, the NATEF NA3SA end-of-course tests. An increase in the data outcomes for the above mentioned core indicators of performance are expected, and students will be prepared to seamlessly transition to college and careers. MSDE will provide technical assistance to help QACPS reach all identified goals. By the end of the grant period, projected enrollment for grade 11 = 25 students, grade 12 = 15 students, for a total of 40 students.

LEA Capacity to implement the AT-POS and the 10 Framework Components

	Framework Components	Capacity to Implement Year One			Capacity to Implement Year Two		
		BCPSS Urban	**BCPS Suburban**	**QACPS Rural**	**BCPSS Urban**	**BCPS Suburban**	**QACPS Rural**
1.	**Legislation and Policies**	X	X	X			
2.	**Ongoing PS, Community and Business Partnerships**	X	X	X			
	An Implementation Guide for the AT-POS will be developed. PD on its use will be provided, all LEAs will implement.						
3.	**Professional Development (PD)**	X	X	X			
	Common course syllabi will be developed for each of the four courses in the AT-POS. PD will be provided for instructors to gain full knowledge and understanding and the ability to consistently deliver the AT-POS.						
4.	**Accountability and Evaluation Systems**	X	X	X			
	PD will be provided to ensure accuracy in data collection/reporting and to provide understanding of the AT-POS data and how to make data-driven decisions to improve program outcomes.						
5.	**College-and Career-Readiness Standards**				X	X	X
	The AT program in BCPSS will become NATEF certified and BCPS and QACPS sites will become recertified by NATEF prior to academic year two of the grant. The AT programs in BCPSS and QACPS will adopt the MD POS prior to academic year two of the grant. Technical Assistance will be provided to ensure outcomes.						
6.	**Course Sequences**		X		X		X
	BCPSS and QACPS will adopt the MD AT-POS prior to year two of the grant; technical assistance will be provided to ensure outcomes.						
7.	**Credit Transfer Agreements**		X		X		X
	All three LEAs have limited numbers of students utilizing the statewide articulation agreement with CCBC and Penn College. Technical assistance will be provided to increase this outcome.						
8.	**Guidance Counseling & Career Advisement**				X	X	X
	A Counselor and Career Advisement conference will be delivered in year one of the grant. All three LEAs will participate.						
		Capacity to Implement Year One			**Capacity to Implement Year Two**		

	Framework Components	BCPSS Urban	BCPS Suburban	QACPS Rural	BCPSS Urban	BCPS Suburban	QACPS Rural
9.	**Teaching and Learning Strategies**				X	X	X
	A Professional Learning Community (PLC) and common course syllabi for the AT-POS will be completed by the end of the grant. PD on the PLC and appropriate teaching and learning strategies for AT-POS instructors will be provided.						
10	**Technical Skills Assessment**				X	X	X
	A portion of the grant will be to provide PD to improve the administration and outcomes for this component.						

(3) *Letters of commitment and support* (Appendix M and N)

- Dr. Andres Alonso, Chief Executive Officer, Baltimore City Public School System
- Dr. John Quinn, Acting Associate Superintendent, Baltimore County Public Schools
- Dr. Carol Williamson, Superintendent, Queen Anne's County Public Schools
- Dr. Sandra Kurtinitis President, The Community College of Baltimore County
- Mr. J. Peter Kitzmiller, President, Maryland Automobile Dealers Association
- Mr. Timothy Zilke, Chief Executive Officer, ASE/NATEF
- Mr. Rafael Reys, Technical Services and Training Manager, Toyota

(4) Specific actions to ensure all 10 Framework Components are implemented:

Technical assistance and PD will be provided by MSDE and/or partners, to the three participating LEAs during Year 1 of the grant to either strengthen or ensure all 10 Framework Components are in place by the beginning of Year 2 of the project. To complete some Framework Components, sub-grants will be awarded to the three participating LEAs to assist with Partnership MOUs, underwrite the cost for teachers to attend PD, upgrade classrooms/labs to meet NATEF certification and re-certification requirements, adopt common course syllabi, conduct PAC meetings, secure upgrades to technology to receive on-line PD, establish articulation tracking systems, administer Technical Skill Assessments and related items. Postsecondary partners may receive sub-grants to assist with AT-POS PD, implementation, establish articulation tracking systems, administer Technical Skill Assessments and related items. Both postsecondary and industry, will participate in the delivery of PD, development of the common course syllabi and web-based instructor resources. **Legislation and Policies –** All three LEAs meet this component at the start of the POS project. **Partnerships –** To strengthen this component for all LEAs, MSDE with its postsecondary partners will create a written MOU that elaborates the roles and responsibilities of partnership members. This document will be for each LEA AT-POS PAC. In addition, MSDE will create a MOU for the roles and responsibilities of the postsecondary affiliate partner. **Professional Development –**To strengthen this component for all LEAs, MSDE and its postsecondary partners will complete the common course syllabi for the Brakes course in the AT-POS. Once this is completed, MSDE and its postsecondary partners will deliver PD on the Brakes course so that instructors will gain full knowledge and understanding and the ability to deliver the MD AT-POS consistent with the common course syllabi so that students are adequately prepared to sit for, and be successful on, the NA3SA end-

of-course tests offered by NATEF. All students who are concentrators will sit for the Brakes NA3SA end-of-course test. **Accountability and Evaluation Systems –** To strengthen this component for all LEAs, MSDE and its postsecondary partners will provide technical assistance and PD on accurate data collection and reporting procedures, data analysis. and data-driven decisions based on CTE accountability documents, and use of the Longitudinal Data system. **College and Career Readiness Standards –** To ensure all three LEAs achieve this component, MSDE and its postsecondary partners will provide technical assistance to ensure BCPSS's current AT-POS earns the NATEF program certification by the beginning of Year 2 of the project. In addition, BCPS and QACPS will receive technical assistance to ensure that their sites receive NATEF re-certification by the beginning of Year 2 of the project. All three LEAs have been in contact with NATEF to ensure that all requirements for certification and recertification are met by the beginning of Year 2. **Course Sequences –** To ensure BCPSS and QACPS achieve this component, MSDE will provide technical assistance to ensure both LEAs adopt and implement the MD AT-POS by the beginning of Year 2 of the grant. **Credit Transfer Agreements –** To strengthen this component, technical assistance and PD will be provided to all three LEAs for the purpose of reviewing the current process used to inform students of statewide articulation agreements and document the credits retrieved at the postsecondary institution. Statewide processes will be established for informing students and for tracking the credit retrieved. In addition, a system will be set up for postsecondary partners to visit the LEAs and inform students of the opportunities available to them as an AT-POS program completer. **Guidance Counseling and Academic Advisement –** To strengthen this component, MSDE and its partners will pilot a guidance and academic advisement conference. The purpose will be to inform counselors about the current AT-POS, the value-added opportunities and career options

available to AT-POS completers. **Teaching and Learning Strategies –** PD will be offered to the LEA AT-POS instructors to gain full knowledge and understanding and the ability to deliver the MD AT-POS consistent with the common course syllabi so that students are adequately prepared to sit for, and be successful on, the NA3SA end-of-course tests offered by NATEF. In addition, web-based support will be established to provide on-going support throughout the school year. **Technical Skill Assessments –** To enhance this component, PD and technical assistance will be provided to the LEAs on NA3SA test preparation, administration, and data analysis.

(5) Ongoing oversight and technical assistance

MSDE will provide ongoing oversight and technical assistance to the participating LEAs throughout the project period to ensure constancy in the implementation through: on-site visits, webinars, conference calls, timely submission of required reports, common course syllabi development, on-site and electronically-delivered PD, monitoring of sub-grant recipients (the three LEAs), upgrades to labs/classrooms, and PD participation. In addition, annual AT-POS PAC meetings, attendance at OVAEA-sponsored meetings, and feedback from WBL placements.

(6) Single LEA State – Not applicable to MD

(d) Project Management

(1) Requirements, specific and measurable objectives, and tasks to be undertaken

MSDE has considerable experience managing federal grants, timelines, sub-grantees and programmatic outcomes. The scope of work will articulate specific deliverables, timelines, and objectives for the project. The MSDE finance team will work in a collaborative manner with MSDE's Transportation Technologies Cluster Team. Key personnel at MSDE bring systemic

knowledge to engage the stakeholders necessary for success and to overcome barriers and challenges. Two major strengths of this proposal are that the key personnel from MSDE and its postsecondary partner, CCBC, have a long history of working collaboratively on the Transportation Technologies Career Cluster and the Project Director's experience in managing and delivering long-term projects on time, within budget, and meeting all criteria objectives. The Promoting Rigorous CTE POS Grant will provide the funding to support full alignment of the MD AT-POS with the US Department of Education's *Programs of Study Design Framework*; establishing a postsecondary partnership to provide PD for teachers; and enhancing students' transition from high school programs to further education and work. It will also strengthen the delivery of the AT-POS at three LEAs- urban, suburban and rural.

(2) *Responsibilities, personnel and timelines*

MSDE will manage the grant using Microsoft Project software. The Project Plan Chart summarizes the tasks that MSDE plans to implement over the grant's four-year period, the responsible personnel and the system for tracking each activity's measurable objective.

Tasks/Action	Responsible Party	Year of Implementation 2010-2014				Completed Tasks 2010-2014			
		1	2	3	4	1	2	3	4
Partnerships									
Review current MD AT-POS with statewide partners, make any identified revisions	*Statewide PAC, MSDE*	X	X	X	X				
Establish Postsecondary Affiliate	*Project Dir.*	X							
Create model written memoranda of understanding for roles and responsibilities of Program Advisory Committee (PAC) members	*Project Dir.*		X						
Professional Development									
Develop and deliver professional development for Brakes common course syllabi	*PS Affiliate*	X							
Field test Brakes common course syllabi, make any identified modifications	*LEAs, MSDE, PS Affiliate*		X						
Develop and deliver professional development for Steering and Suspension, Electrical/Electronics common course syllabi	*PS Affiliate*		X						
Field test Steering and Suspension and Electrical/Electronics common course syllabi, make any identified modifications	*LEAs, MSDE, PS Affiliate*			X					
Develop and deliver professional development for Engine Performance common course syllabi	*PS Affiliate*			X					
Field test Engine Performance common course syllabi, make any identified modifications	*LEAs, MSDE, PS Affiliate*				X				

Tasks/Action	Responsible Party	Year of Implementation 2010-2014				Completed Tasks 2010-2014			
		1	2	3	4	1	2	3	4
Deliver professional development on the National Automotive Student Skills Standards Assessment (NA3SA) end-of-course technical assessments	*Ind. Partner*	*X*							
Provide Technical Assistance for LEAs to ascertain NATEF Program Certification & Recertification	*PS Partner, Ind. Partner*	*X*							
Provide Technical Assistance for LEAs to adopt the MD Automotive Technician (AT) POS	*Project Dir./MSDE*	*X*							
Develop and disseminate an Implementation Guide for the AT Program	*Project Dir., PS Affiliate*		*X*	*X*					
Deliver professional development on data collection, reporting, analysis and making data-driven decisions to all AT instructors, include NA3SA Data, MSDE Data and local data as available. Deliver PD on analyzing all available data to all AT instructors	*MSDE, Ind. Partner*	*X*	*X*	*X*	*X*				
Provide Technical Assistance for LEAs to ensure quality delivery of the Brakes course	*MSDE, PS Affiliate*		*X*						
Provide Technical Assistance for LEAs to ensure quality delivery of the Steering and Suspension course	*MSDE, PS Affiliate*			*X*					
Provide Technical Assistance for LEAs to ensure quality delivery of the Electrical/Electronics course and Engine Performances courses	*MSDE, PS Affiliate*				*X*				
Accountability and Evaluation Systems									
Submit Year-End progress reports	*Project Dir.*		*X*	*X*	*X*				
Implement tracking system for all students redeeming earned articulated credit	*Project Dir., PS Affiliate*			*X*					
Monitor tracking system for all students redeeming earned articulated credit	*Project Dir., PS Affiliate*				*X*				

Tasks/Action	Responsible	Year of	Completed Tasks

	Party	Implementation 2010-2014				2010-2014			
		1	2	3	4	1	2	3	4
Collect and analyze grant data	*Project Dir.*				*X*				
Develop model to certify quality delivery of the MD AT-POS	*Project Dir.*				*X*				
College and Career Readiness Standards									
Explore, design and develop dual enrollment opportunities for high school students to be dual enrolled at the CCBC in one of three industry specific programs as a capstone, i.e. General Motors – ASEP, Ford Motor Company – ASSET or Toyota Motor Corporation T-TEN, if deemed appropriate based on year one research	*Project Dir., PS Affiliate*	*X*	*X*	*X*	*X*				
Course Sequences									
Ensure alignment of MD POS with PS Automotive Technician programs	*Project Dir., PS Affiliate*	*X*	*X*	*X*	*X*				
Design and develop common course syllabi for Brakes, ensuring incorporation of rigorous knowledge and skills in English, science and mathematics	*Project Dir., PS Affiliate*	*X*							
Design and develop common course syllabi for Steering and Suspension, Electrical/Electronics course, ensuring incorporation of rigorous knowledge and skills in English, science and mathematics	*Project Dir., PS Affiliate*		*X*						
Design and develop common course syllabi for Engine Performance course, ensuring incorporation of rigorous knowledge and skills in English, science and mathematics	*Project Dir., PS Affiliate*			*X*					

Tasks/Action	Responsible Party	Year of Implementation 2010-2014				Completed Tasks 2010-2014			
		1	2	3	4	1	2	3	4
Credit Transfer Agreements									
Develop a model process to inform and encourage student redemption of articulated credit at postsecondary institutions	*Project Dir., Transition Coordinator*		*X*						
Develop tracking system for all students redeeming earned articulated credit	*Project Dir., PS Affiliate*		*X*	*X*					
Expand statewide articulation agreements to include additional colleges in surrounding states and within the state of Maryland	*Project Dir., PS institutions*	*X*	*X*	*X*	*X*				
lance Counseling and Academic Advisement									
Design and deliver Guidance Counselors conference. Deliver conference in subsequent years	*Project Dir., MSDE*	*X*	*X*	*X*	*X*				
Develop enhancements to the Guidance Counselor conference based on year one evaluations	*Project Dir., MSDE*		*X*	*X*	*X*				
Create and promote Maryland Automotive Technology Hall of Fame	*Project Dir., Transition Coordinator*		*X*	*X*	*X*				
Teaching and Learning Strategies									
Implement web-based Professional Learning Community	*Project Dir., Consultant*		*X*						
Develop web-based support for AT instructors to access throughout the school year	*Project Dir., Consultant*		*X*						
Develop web-based resources/tools for students to explore career options in the automotive industry	*Project Dir., Consultant*		*X*	*X*	*X*				

Tasks/Action	Responsible Party	Year of Implementation 2010-2014				Completed Tasks 2010-2014			
		1	2	3	4	1	2	3	4
Technical Skills Assessments									
Ensure the three LEAs administer the NA3SA end-of-course exam	*Project Dir., MSDE*	*X*							
Provide Technical Assistance for LEAs to ensure appropriate administration of the end-of-course tests	*Project Dir., MSDE*	*X*	*X*	*X*	*X*				
Monitor LEAs to ensure appropriate administration of the NA3SA end-of-course exams	*Project Dir., MSDE*	*X*	*X*	*X*	*X*				

(3) *Project Director and other key personnel*

As Project Director, Kathy McNerney will have direct oversight and be the single point of accountability to deliver the grant in accordance within the identified timelines and budget. She will lead the planning and implementation of the AT-POS Promoting Rigorous CTE POS grant responsibility. This includes direct oversight for the day-to-day implementation of the grant. It is estimated that Kathy will spend about 25% of her time, or one week/month working on this grant. She will assemble and coordinate a project team composed of the Transportation Technologies Cluster Team, state PAC members including postsecondary partners, LEA participants, and industry to assist with the plans to create and implement the AT-POS common course syllabi, deliver PD, and ensure awareness and tracking of articulation agreements.

The professional and interpersonal skill sets Kathy brings to this project are: time management, leadership, communication, team building, organization, and fiscal responsibility, which will enable her to complete the project deliverables. Her past experiences include: Project Director for MSDE's Web-based CTE Local Plan for Program Improvement (Perkins Application). OVAE cited the electronic Perkins Application as a best practice during their 2010 Federal Monitoring Visit of MD.

The other two key MSDE personnel who will work on the grant are Nancy Hauswald and Mike Beck. Both are members of the Transportation Technologies cluster. They worked on the development of the AT-POS, have been instrumental in working with the statewide PAC, helped with the creation of the statewide articulation agreements with CCBC and Penn College, and contributed to the development and timely delivery of the ongoing PD for the AT-POS instructors. In addition, a management oversight team will be comprised of MSDE staff from the Division of Career and College Readiness including Katharine M. Oliver, Assistant State Superintendent, Jeanne-Marie S. Holly, Program Manager, CTE Systems Branch, and appropriate MSDE financial representatives. Resumes of key personnel are presented in. Appendix O.

(4) *Time commitments of the Project Director and Key personnel*

(e) Estimated time commitment of the Project Director will be 25%, or approximately one week/month. The estimated time commitment of the other two key MSDE will be about 15% of their time or two and one-half to three days per month. They will support the Project Director on the grant deliverables. Other major partners will include the postsecondary affiliate, their time commitment will be about 40%, as they will do the work on the common course syllabi, deliver the PD, develop the implementation Guide, and provide technical

assistance. The AT-POS PAC will also play a key role in the implementation of the grant through their industry expertise.

(f) Adequacy of resources

(1) Adequacy of support provided

Each of the three participating LEAs has provided AT-POS classrooms and labs that are equipped with industry standard equipment, supplies, materials of instruction and NATEF certified teachers. Business and industry partners assist with the implementation of the AT-POS through serving on advisory committees, providing internships for students, serving as guest speakers for the program, and donating equipment. Additional resources from the LEAs include guidance and advisement from school counselors, support services for students who are members of special populations, and administrative supervision/support from the principal, other school administrators, and the CTE director.

CCBC provides support for PD including classroom and lab space for AT-POS instructors, faculty who serve on advisory committees and as guest lecturers in the high school AT-POS, professional development for AT-POS instructors, career advisement and other student services, and administrative support for articulated credits.

(2) Budget is appropriate and costs are reasonable

The budget and budget narrative include those items and services not currently funded through any other means. These include additional PD for instructors, upgrades to AT-POS labs and classrooms, educational technology needs not currently met to enhance teaching and learning. The budget narrative details grant costs and in-kind contributions.

(f) Evaluation

(1) Evaluation is feasible and appropriate for evaluating implementation in Years 2- 4

The evaluation is feasible and appropriate for evaluating the constancy of the AT-POS and is modeled on a national, highly respected program certification process, Project Lead the Way (PLTW). The PLTW model has proven itself to be rigorous, workable, and highly effective over a period of several years. Key elements that will be included in the AT-POS evaluation are: (1) all Automotive Technology courses will be taught by ASE certified instructors, (2) all instructional, classroom and lab equipment will meet NATEF certification standards, (3) all AT-POS students will also take college preparatory mathematics and science courses as detailed in the course matrix, (4) all AT-POS students will take the NA3SA end-of-course test, results will be monitored, and (5) all three LEAs AT-POS will undergo an on-site program quality certification assessment as part of the grant evaluation.

A team will be formed to develop the AT-POS program quality assessment, using the PLTW model, to certify quality program delivery. Each of the three participating LEAs will conduct a self-assessment during Year 2 of the grant describing its level of progress on the required elements of the implementation plan and the 10 Framework components. This self-assessment will be submitted to, reviewed, and analyzed by MSDE and its postsecondary partners. A program quality (PQ) assessment team will be formed to administer the assessment evaluation. Each of the three LEAs will undergo the PQ assessment by the end of the grant period. Additionally, Perkins performance data will be collected, analyzed, and reported on the Perkins Core Indicators of Performance relevant to this grant. They will serve as another key component of the evaluation and program improvement process. MSDE's CTE Accountability Reports are

extensive and sophisticated, as well as user-friendly, including many charts and easy to understand data displays. They are provided to all LEAs and community colleges annually. At the conclusion of the four-year grant period, each participating LEA's performance and progress on the implementation objectives, the relevant Perkins indicators, and the 10 Framework components will be evaluated and reported.

(2) Evaluation is feasible and appropriate for effectiveness of 10 Framework components

MSDE is very confident that the evaluation system is both feasible and appropriate to ensure effectiveness of the 10 Framework components. Both of the two main elements of the evaluation, the program quality assessment and the CTE Accountability Reports have excellent track records of effectiveness for program evaluation over a period of several years. Both are specifically designed to link to AT-POS and the 10 Framework components.

(3) Evaluation conducted by qualified individuals

The PQ Evaluation Team members will be selected based on their knowledge and expertise of: the AT POS; program improvement process; NATEF certification, including Evaluation Team Leaders certified by NATEF; the Transportation Technologies cluster; and Perkins data.

(4) Commitment to participate in Evaluation Design Meeting and other discussions

MSDE is fully committed to participate in the Evaluation Design Meeting as well as any other discussions/meetings required by the grant. Suggestions for use of student outcome data that can be accessed through the State's longitudinal data system are: Student-level enrollment, demographic and program participation information, student-level information about the points at which students exit, transfer in, transfer out, withdraw, or complete PreK-16 education programs, the capacity to communicate with higher education data systems, teacher identifier system with the ability to match teachers to students, student-level transcript information, including information on courses completed and grades earned, student-level college-readiness test scores, and information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework.

Project Narrative

RESUMES

Attachment 1:
Title: **Resumes** Pages: **0** Uploaded File: **Resumes.pdf**

JEANNE-MARIE S. HOLLY
Program Manager, Career and Technology Education Systems
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Phone: 410-767-0182; Fax: 410-333-2084; E-mail: jmholly@msde.state.md.us

Biographical Sketch

Jeanne-Marie S. Holly is the Program Manager for the Career and Technology Education Systems Branch in the Division of Career and College Readiness with the Maryland State Department of Education (MSDE). She is responsible for providing leadership to regional coordinators who provide technical assistance for the development, upgrade and continuous improvement of career and technology education (CTE) programs throughout Maryland's 24 local school systems and 16 community colleges. She leads the Human Resources Services Career Cluster where several state programs of study have been developed. These include: Fire and Rescue Emergency Technician, Teacher Academy of Maryland, and Homeland Security and Emergency Preparedness. In addition, Jeanne-Marie provides direct oversight for all financial matters for CTE including state, federal, and private funds; regulatory and compliance issues; and reporting requirements. She also serves as the Division's Legislative Liaison to MSDE for state and federal legislation regarding CTE and Juvenile Services Education.

Prior to her current position, Jeanne-Marie held other leadership positions within MSDE including Section Chief, Instructional Branch and State Specialist for Family and Consumer Sciences. Before joining MSDE, Jeanne-Marie was a tenured faculty member with the University of Maryland's Cooperative Extension Service. She has also served as an adjunct faculty member for a private college, a writing consultant for Adult Education, author of two consumer series for Maryland Public Television and began her career as a Family and Consumer Sciences teacher. She has over 34 years of experience in the education field.

Jeanne-Marie received her Bachelor's and Master's degrees from the University of Maryland. She has held both elected and appointed positions of leadership in a variety of professional organizations, including serving in national offices. She has been recognized with various awards at the local, state and national levels for her leadership and contributions to the education field, most recently with the Distinguished Service Award from the National Association for Career and Technical Education Information where she served as President in 2008.

Kathy McNerney
Education Program Supervisor
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Biographical Sketch

Kathy McNerney is the Education Program Supervisor for the Career and Technology Education Systems Branch in the Division of Career and College Readiness with the Maryland State Department of Education (MSDE), She is responsible for the supervision and management of three regional coordinators who provide technical assistance for the development, upgrade and continuous improvement of career and technology education (CTE) programs throughout Maryland's 24 local school systems and 16 community colleges. She leads two MSDE Career Cluster Teams: Environmental, Agriculture and Natural Resources (EANR) and Transportation Technologies (TT). In 2006, Kathy provided leadership in the development and adoption of the Maryland Certified Professional Horticulturist (CPH) Exam/Student Certification in collaboration with EANR advisory members, and in 2008-09 she spearheaded Maryland's piloting of the national Curriculum for Agriculture Science Education (CASE) POS. Most recently she acted as Project Director for MSDE's Web-based CTE Local Plan for Program Improvement (Perkins Application). OVAE cited the electronic Perkins Plan application as a best practice during their 2010 Federal Monitoring Visit of Maryland.

Prior to joining the Maryland State Department of Education in 2001 as an education specialist, Kathy was the Manager of Program Development and Marketing at the Georgian Bay Center in Ontario, Canada, a teacher of technology, business education and cooperative education supervisor. She also has a business background and served as a buyer and Director of Imports for various retail companies in the northeast. Her background includes a B.A. in Distributive Education from Montclair State University with a minor in Business Education.

Michael Beck
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Biographical Sketch

Michael Beck is a Career Technology Education (CTE) Program Analyst for the Student and Assessment Services Branch of the Division of Career and College Readiness of the Maryland State Department of Education (MSDE). He provides technical assistance to CTE program administrators on issues of CTE Program performance measurement and analysis to ensure increased school and student performance as measured by Maryland's statewide assessment programs. He conducts data collection, analysis and reporting activities to support secondary and postsecondary CTE performance improvement initiatives. In addition, he has served on the Transportation Technology Career Cluster Team since 2002, working with the State Program Advisory Committee and industry and postsecondary partners on the development of all of Maryland's Transportation Technology CTE Programs of Study (POS).

Prior to his current position, Mike was a member of the staff of the Maryland Higher Education Commission (MHEC) for 18 years, working as a Senior Education Analyst. Part of his responsibilities at MHEC included collaboration on policy and regulatory initiatives relative to career/workforce education. In addition, he was responsible for the review, approval and regulatory oversight of Private Career Schools, including schools providing education/training in Automotive Technology.

Nancy T. Hauswald
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Biographical Sketch

Nancy Hauswald is the Education Specialist/ Regional Coordinator for the Career and Technology Education Systems Branch in the Division of Career and College Readiness with the Maryland State Department of Education (MSDE). She is responsible for providing leadership and technical assistance for the development, upgrade and continuous improvement of career and technology education (CTE) programs for 12 Maryland local school systems and six community colleges. She serves on the Transportation Technologies Career Cluster Team where several state programs of study have been developed including: Automotive Technician, Autobody/Collision Repair, and Medium-Heavy Truck. Nancy works directly with Transportation Technologies Program Advisory Members and was a member of the Anne Arundel Community College's Transportation Logistics Program committee.

Before joining MSDE, Nancy has been a high school work-based learning coordinator, a Social Studies teacher and spent 20 years working in Educational Services/ Newspaper In Education Manager at The Baltimore Sun.

Nancy received her Bachelor's degrees from Frostburg State College, now Frostburg State University and her Masters from Johns Hopkins University.

Katharine M. Oliver

Assistant State Superintendent
Career and College Readiness
Maryland State Department of Education

Mrs. Oliver is the Assistant State Superintendent for Career and College Readiness. She leads a division of the Maryland State Department of Education www.marylandpublicschools.org committed to accelerating student achievement. The division administers a full range of academic and career and technology instructional programs and support services for youth in Department of Juvenile Services facilities and leads the continuous improvement of Maryland's statewide system of Career and Technology Education.

Mrs. Oliver was appointed to her current position in 1989 and is the nation's most senior State Director of Career and Technology Education. Until July of 2009, her division also had responsibility for Maryland's systems of Adult and Correctional Education. Action by the General Assembly moved those programs to the Department of Labor Licensing and Regulation.

Earlier in her career, she was a member of MSDE's Division of Rehabilitation Services Executive Team and also worked with Maryland's Department of Labor, Licensing, and Regulation in workforce development.

She is a graduate of the College of Notre Dame of Maryland and received a Master of Science Degree in Administration and Management from Hood College in Frederick, Maryland.

Mrs. Oliver serves on a variety of local, state, and national advisory boards related to education and workforce development. She is a past President of the National Association of State Directors of Career Technical Education Consortium and is the current chair of the Southern Regional Education Board's (SREB) High Schools That Work Board. She also serves on the:

- Maryland Governor's P-20 Council,
- Maryland's Apprenticeship and Training Council.
- Multinational Development of Women in Technology Board of Trustees,
- Cisco Academy National Advisory Committee,
- National Automotive Technician Education Foundation Board of Trustees, and
- Project Lead the Way National Advisory Board.

Recently, Mrs. Oliver was honored by *The Daily Record* as one of Maryland's Top 100 Women.

Project Narrative

ADDITIONAL INFORMATION

Attachment 1:
Title: **Appendices A-O** Pages: **0** Uploaded File: **Appendices A-O.pdf**

Appendix – A

Quality Counts
2010 Press Release

Maryland's public schools again ranked #1 in the nation by Education Week!

The *2010 Quality Counts* annual report shows Maryland ranking **first in the nation for a second year in a row.**

Maryland consistently placed at the top of its class in the report's 6 determining categories and scored no lower than a B in any given area.

In **Chance for Success**, one of the most comprehensive categories, Maryland earned a **B+ or sixth in the nation** based on 13 indicators ranging from infancy to adulthood.

The state also earned a **B+ in Standards, Assessment, and Accountability** for its elementary, middle, and high school curriculum and testing standards, and accountability policies.

This year's *Quality Counts* provided an extensive overview of state policies addressing the **Teaching Profession** and Maryland ranked **fifth in the nation with a B** in the category.

Maryland placed **seventh in the nation with a B in School Finance** to round out the 2010 rankings at seventh in the nation.

For **Transitions & Alignment*, Maryland scored first with an A** for how well the K-12 education system, as a whole, helps students become ready for school, progress through the education experience, and prepare for college/university and/or the workforce.

Maryland's **K–12 Achievement* ranked second with a B** for students' national test performance in both math and reading at key grade benchmarks – 4th, 8th, and Advanced Placement (AP) – as well as the high school graduation rate.

** The category was taken from previous Quality Count reports.*

Education Week is the nation's leading education newspaper. The newspaper's annual *Quality Counts* report provides a survey of states' educational policies and performance based on key criteria and benchmarks. The results are based on data collected and analyzed by the Editorial Projects in Education Research Center as well as investigations conducted by ***Education Week*** reporting staff. In addition, each annual report hones in on key national topics for in-depth examination — this year's being The Teaching Profession and the Common Core Standards. To access the full report after the embargo date/time, go to www.edweek.org/rc

MARYLAND STATE DEPARTMENT OF EDUCATION
Achievement Matters Most

Maryland State Department of Education
200 W. Baltimore Street Baltimore, MD 21201

410-767-0600 or 888-246-0016 Fax: 410-333-2275
MarylandPublicSchools.org

Appendix – B

Policies & Procedures Abridged

Policies and Procedures for the Development & Continuous Improvement of Career and Technology Education Programs

TABLE OF CONTENTS

To review the entire *Policies and Procedures* Document go to
http://www.marylandpublicschools.org/MSDE/divisions/careertech/career_technology/programs/

Background – A New Model for Career and Technology Education

Maryland's extensive experience in school reform included major changes in career and technology education (CTE). During the past ten years, the Maryland State Department of Education (MSDE), Division of Career Technology and Adult Learning (DCTAL) created a new model of career and technology education that prepares students for both employment and further education. Rapid changes in the economy provided the impetus for the establishment of Maryland CTE Programs of Study, which are sequential academic and technical programs guided by industry standards that result in students graduating prepared for employment and further education. Changes in employers' expectations led to the implementation of a system of career development; the use of blended or integrated instruction to ensure that students develop academic and technical knowledge as well as Skills for Success as part of their technical programs; and linking learning levels through Tech Prep. The Department's intent was to ensure students' access to challenging CTE programs that include academic, technical, and workplace skills. In CTE, this has meant designing high-quality processes that contribute to the continuous improvement of the broader system of education for all students.

Considerable progress has been made to update, restructure, and evolve vocational-technical education to become what is now called career and technology education. The new model of CTE includes the following:

- Career Clusters - Organizing instructional programs within 10 broad career clusters designed to provide students with multiple career pathways leading to employment and further education, rather than training in specific job-related skills. The Maryland State Department of Education's 10 career cluster frameworks are described in *Maryland Career Clusters: Restructuring Learning for Student Achievement in a Technologically Advanced, Global Society*. The frameworks were developed by cluster teams including over 350 business and industry partners in collaboration with secondary and postsecondary educators.
- Career Development - Implementing Maryland's K-16 Career Development Framework to provide a sequence of experiences - awareness, exploration, and preparation - to inform students' future educational and career decisions.
- Blended Instruction – Integrating academic, technical, and workplace skills or *Skills for Success* to provide students access to relevant and challenging CTE programs that blend theory and application. The academic skills are based on Maryland's high school voluntary state curriculum and core learning goals.
- Tech Prep – Articulating CTE programs that prepare students for employment and further education through a planned, sequential program of study that includes at least the last two years of high school and the first two years of college or postsecondary education.
- Technical Assessments – Using valid and reliable assessments leading to an industry-recognized certificate, license, or other credential to document student performance and inform instructional improvement.
- Maryland CTE Programs of Study – Adopting state-developed CTE programs of study aligned to Maryland's career clusters to ensure consistency in program quality and to facilitate statewide articulation and professional development.

- Accountability - Emphasizing the use of data for school improvement based on the Perkins Core Indicators of Performance and other outcomes such as student academic achievement and technical competence, placement and success, and employer satisfaction.

With this model in place, the Maryland State Department of Education is directing attention to the continuous improvement of curriculum, instruction, and assessment through a new, more collaborative process for the development and approval of CTE programs.

Overview – A New Process for Developing, Monitoring and Continuously Improving CTE Programs

A core value for this system of career and technology education is a focus on continuous improvement. To ensure that all state approved programs align with this value, DCTAL establishes the following policies and procedures:

a. Local school systems (LSSs) shall adopt Maryland CTE Programs of Study aligned to the career clusters by completing specific local information on the proposal provided by MSDE. A current list of Maryland's CTE Programs of Study and sample proposals are available at www.marylandpublicschools.org. When a state program does not exist, CTE local directors develop new programs in collaboration with MSDE's career cluster teams and other local school systems.

b. All **new** program proposals are developed following the process outlined in this document. This process includes a requirement that stakeholders develop a plan for the continuous improvement of each program. During the program development process, or once the proposal is approved by MSDE/DCTAL, a locally-developed program may be offered for adoption to other local school systems as a Maryland CTE Program of Study.

c. All existing programs undergo an **annual** review for continuous improvement opportunities as CTE directors develop or update the Local CTE Plan for Program Improvement. The basis for such a review involves an examination of program performance data from the Program Quality Index (PQI) and other data available at the local level. CTE local directors use the most appropriate, highest quality data that are currently available. Using performance data, the CTE local director identifies and prioritizes programs for review and revision in the Local CTE Plan for Program Improvement.

d. As part of the annual verification of List A, the list of approved CTE programs, programs with no enrollment at a participating site for the previous two school years will be flagged for review. If there is no justification for retaining these programs on List A (MSDE's list of approved CTE programs), CTE local directors will remove these programs from List A or MSDE will remove them upon confirmation with the CTE local director that there is no enrollment.

e. Programs are amended using the revised program amendment process described in this document (see pages 29 through 34).

The purpose of these policies and procedures is to describe the process that local school systems shall follow to develop or amend a CTE program. This document includes the

mission and guiding principles that underpin the collaborative process for the development of CTE programs. It defines the process for program development and review and includes the directions for completing a program proposal.

In order to begin the program proposal development process, CTE local directors consult with the appropriate DCTAL Regional Coordinator listed in Appendix A.

CTE Mission and Principles

A design team consisting of state and local stakeholders developed the mission and guiding principles for CTE programs in Maryland. These statements are the common understandings and agreements among the stakeholders regarding high-quality CTE. They are to be used to guide the development and/or improvement of CTE programs of study.

Mission

Career and technology education programs are developed and implemented to increase the academic, career, and technical skills of students in order to prepare them for careers and further education.

Core Principles

In order to fulfill this mission, the following principles guide the development of state-approved CTE programs:

1) **CTE programs are developed in conjunction with all relevant stakeholder groups.**

   Each local school system works closely with a CTE local advisory council (LAC) to continuously improve the local system of career and technology education. Program advisory committees (PACs) exist for each program or cluster of closely related programs within the LSS. The PAC members work directly with CTE local directors and teachers at each school to provide advice on program enhancements. These committees involve parents, students, teachers, postsecondary partners, representatives of business and industry, and labor organizations; partners in local workforce and economic development; and representatives of special populations. Responsibilities include the development, implementation, and evaluation of high-quality CTE programs.

2) **CTE programs are organized under broad clusters, based on all aspects of an industry, designed to help students make informed decisions regarding career pathways.**

   Broad career clusters share a common core of knowledge and skills that provide students with an understanding of all aspects of the industry that they are planning to enter. For each cluster, these include planning, management, finances, technical and production skills, underlying principles of technology, labor issues, and health and safety. Learning and instruction are supported by appropriate career development activities aligned with the Maryland Career Development Framework to help inform students' decisions and prepare them for lifelong learning.

3) **Economic market demands, both current and projected, constitute the criteria for identifying value-added opportunities.**

   Issues of economic development and workforce preparation are considered in order to determine the need for CTE programs. CTE program developers document labor market demand for the clusters in order to determine which CTE programs to offer to students. Labor market information is gathered at local, regional, state, and national levels. New or emerging programs offered at the postsecondary level should also be considered in order

to provide secondary school students with the opportunity to link high school learning opportunities with college. CTE programs provide value-added opportunities for students, including entry into careers and further education. Therefore, it is important to consider postsecondary program options that align with secondary programs.

4) **CTE programs are developed in response to an identified opportunity to add value to students' overall educational programs.**

CTE program developers seek out and provide accurate information about opportunities that add value to a student's educational program. CTE programs provide students with a planned, sequential program of study that blends academic, technical, and workplace skills to prepare them for careers and further education. Program completers have the advantage of graduating from high school with career options that are often only available to students who have completed a CTE program.

5) **CTE programs are based on the most appropriate, reliable and valid technical and academic standards available.**

CTE programs include a coherent set of academic, employability and technical skills, based on national and state standards that provide students moving directly to employment with a value-added competitive advantage. The program advisory committee validates the most current technical standards and adopts or adapts those appropriate for the needs of the program. Where no appropriate standards exist, the program advisory committee, in conjunction with the local school system, outlines standards to define the academic, career, and technical skills required for completion of the program. The academic standards are based on Maryland's voluntary state curriculum.

6) **CTE programs provide multiple options for students as they prepare for entry into careers and further education.**

CTE programs are developed in conjunction with representatives from businesses, industries, labor organizations and apprenticeship programs, and secondary and postsecondary education. This ensures curricular alignment, often accomplished through articulation agreements, so that there is a seamless transition for students moving directly to employment or postsecondary education. CTE programs are designated as Tech Prep programs when they provide students planned sequential program of studies combining academic and technical courses beginning in high school and continuing for two or more years of postsecondary education.

The nature of the contemporary workplace requires that supervised work-based learning opportunities are made available to students to help them make informed career decisions. These placements are designed to provide meaningful work experience as an integral part of the CTE program to extend, reinforce, and validate students' learning. They are organized in partnership among the local school system, businesses and industry, labor organizations, community agencies, and the family.

Several CTE programs offer students opportunities to complete industry-mentored or capstone projects. They are typically completed as a culminating effort by students to demonstrate the cumulative learning that has occurred during the entire CTE program of

study. Students work directly with industry mentors, as individuals or in teams, to receive advice and guidance in the development of their projects. Students in CTE may complete an industry-mentored project in addition to or instead of participating in a work-based learning experience.

7) **CTE programs are measured against student attainment of rigorous academic, employability and technical skills and student success in further education and employment.**

CTE students meet state-established academic standards based on Maryland's high school voluntary state curriculum. CTE students also have the prerequisite skills for entry into postsecondary education as evidenced by reducing the number of students needing remediation; increasing the number of CTE students meeting Maryland's rigorous course indicators; and increasing in the percentage meeting University System of Maryland (USM) admissions requirements.

CTE students attain the state-established *Skills for Success* as represented by students successfully transitioning into employment, further education, or both. To fulfill this principle, programs include technical skill development and leadership experiences for students through Career and Technology Student Organizations (CTSOs) or other appropriate professional associations.

CTE students complete a rigorous end-of-program assessment combining academic and technical skills. Where recognized national, state, or local certification or licensure programs exist, they are used. Where certification examinations do not exist, local school systems work with their local advisory councils and program advisory committees to identify appropriate assessments. End-of-program assessments inform teachers of students' achievement and provide evidence for changes needed in the instructional program.

To ensure that all students have the opportunity to attain the necessary knowledge and skills, support services for members of special populations are identified and provided in all CTE programs, including related instruction.

8) **Outcome data for CTE programs are reported and used.**

Local school systems and local advisory councils collect and analyze data on student attainment of rigorous academic, employability, and technical skills. Outcome data are used to drive a process of continuous improvement for all CTE programs, including decision-making regarding the viability of such programs. State and local outcome data for CTE programs serve as a means of benchmarking program performance and closing performance gaps.

Process for Developing New CTE Program Proposals

The process for developing new CTE programs is designed to be collaborative in nature and results in the submission of approved program proposals. Staff members representing the Division of Career Technology and Adult Learning (DCTAL) will provide technical assistance to build local capacity to develop and continuously improve CTE programs. To begin the process, contact the DCTAL Regional Coordinator listed in Appendix A. The process steps follow:

Steps in the Program Development Process

Steps 1A and 1B
Establish the program advisory committee and conduct labor market needs analysis

↓

Step 2A
Review cluster, pathways, technical skill standards, and academic voluntary state curriculum to identify the CTE program(s) to be developed. Describe the program based on desired student outcomes

↓

Step 2B
Describe each CTE completer course and identify end-of-course assessments

↓

Step 2C
Determine appropriate curriculum, end-of-program assessments, licenses, and certifications

↓

Step 2D
Complete the secondary program matrix and indicate the concentrator course with an asterisk

↓

Step 2E
Specify the types of value-added options available to students (credentials and/or postsecondary credit)
Complete the postsecondary program matrix and attach a copy of the Tech Prep articulation agreement

↓

Step 2F

Identify the work-based learning experiences or industry-mentored projects provided to students

↓

Step 2G

Identify the Career and Technology Student Organization (CTSO) opportunity provided to students in the program

↓

Repeat Step 2A

Review overall Program Description to ensure accuracy with the course offerings, value-added options, work-based learning experiences, and CTSO identified for the program

↓

Step 3

Identify sites and allocate resources

↓

Step 4

Submit and Present Proposal to MSDE/DCTAL

↓

Step 5

Implement and continuously improve programs

Requirements for each phase of the process follow.

Appendix – C

Cluster Teams

CTE Cluster Teams

MSDE organizes CTE POS within identified ten (10) Career Clusters that represent core business functions across broad industry areas. MSDE staff specialists serve on each career cluster team to provide on-going development and technical assistance for all CTE POS.

Regional Coordinators are the first point of contact in the CTE program development and amendment process. Listed below are the members of each of the 10 career cluster teams:

Arts, Media and Communication ***Marquita Friday and Instructional Branch*** Rosemary Bitzel	**Health and Bioscience** ***Lynne Gilli and Instructional Branch*** Nina Roa Chuck Wallace
Business Management and Finance ***Annette Donawa and Student Assessment Branch*** Marianne Hollerbach William Nottage	**Human Resource Services** ***Jeanne-Marie Holly and Systems Branch*** Mike Beck
Consumer Services, Hospitality and Tourism ***Marquita Friday and Instructional Branch*** Nina Roa	**Information Technology** ***Pat Mikos and Student Assessment Branch*** Matt Koerner William Nottage
Construction and Development ***Pat Mikos and Student Assessment Branch*** Chuck Wallace	**Manufacturing, Engineering Technology** ***Lynne Gilli and Instructional Branch*** Luke Rhine
Environmental, Agriculture and Natural Resources ***Kathy McNerney and Systems Branch*** Matt Koerner	**Transportation Technologies** ***Kathy McNerney and Systems Branch*** Mike Beck Nancy Hauswald

Bold Italics = CTE Leadership and Associate Support
Marquita Friday, Kathy McNerney and Pat Mikos – Lead Specialists for all Cluster work

(Career Research & Development CIP#86.0000 – Susan Oskin gets a copy of any Memo's)

Updated: 8/31/2010

Appendix – D

Governor's Task Force Recommendations

Governor's P-20 Leadership Council of Maryland
Career and Technology Education Task Force 2009

Expand CTE program offerings to ensure responsiveness to economic and workforce development needs and provide career opportunities for all Maryland students.

1. Increase the number of Maryland CTE Programs of Study. Continue working with industry to identify appropriate new Maryland CTE Programs of Study. Complete and fully implement the 48 currently identified Maryland CTE Programs of Study so that a full complement of career preparation programs is offered in each of the 24 local school systems. Ensure alignment with the GWIB's Industry Initiatives.
2. Prioritize funding to ensure CTE classrooms and equipment meet industry standards in order to successfully prepare students for industry certification and post high school technical learning.
3. Establish policy and funding support to increase the number of CTE teachers in critical infrastructure areas.

Ensure academic and technical rigor of CTE programs that prepare Maryland high school graduates for successful transition to college and careers.

4. Require all students to graduate from high school both college and career ready.
5. Target professional development aligned with Maryland's Teacher Professional Development Standards to ensure high quality instruction to CTE teachers and guidance counselors. Provide CTE administrators with professional development and leadership skills necessary to implement, monitor, and evaluate high quality CTE programs of study.
6. Expand statewide program articulation for Maryland CTE programs of study to include opportunities for apprenticeships as well as early college options such as transcripted credit and increase student access and use of articulated credit.
7. Increase the number of CTE graduates who take and pass assessments leading to industry-recognized credentials.

Increase access to CTE programs so that all of Maryland's students have opportunities for career preparation and are provided support for successful transition from high school to college and careers.

8. Establish an ongoing public awareness campaign to increase understanding of the Maryland system of CTE, including the full range of value-added opportunities provided for CTE graduates upon completion of a program of study.
9. Fully implement Maryland's Career Development standards using resources available from MSDE.
10. Provide academic, technical and career development support services to CTE students, including those with special needs, to ensure successful completion of a CTE program and transition to college and careers.
11. Strengthen the alignment of data collection and reporting to federal and state systems to increase accuracy of information concerning Maryland graduates as they transition to college and the workforce.

Appendix – E

Auto Tech – POS Abridged

Maryland CTE Program of Study

Automotive Technician

Secondary CTE Program of Study Proposal Form

Maryland State Department of Education
Division of Career Technology and Adult Learning
200 West Baltimore Street
Baltimore, Maryland 21201-2595

This agreement is between the Division of Career Technology and Adult Learning (DCTAL), Maryland State Department of Education, and the local school system listed below.

LOCAL SCHOOL SYSTEM INFORMATION – Complete the information requested below, including the original signature of the CTE local director.

Local School System (LSS) and Code: _____

Name of CTE local director: _____ Phone: _____

LSS Career Cluster: _____

LSS Program Title: Automotive Technician

Pathway Options: 1. _____ 2. _____ 3. _____

Tech Prep: ☒ yes ☐ no This program meets the criteria as a Tech Prep Program and the academic and technical course sequences for both secondary and postsecondary programs are attached.

☒ yes ☐ no Enclosed is a copy of the articulation agreement.

Program Start Date: _____

Signature of CTE Local Director: _____ Date: _____

Signature of Local Superintendent: _____ Date: _____

TO BE COMPLETED BY MSDE/DCTAL

Date Program Proposal received by CTE Systems Branch: _____

CTE Control Number: _____ Fiscal Year: _____

CIP Number: Program: 47.0645 Pathway Option 1: _____ Pathway Option 2: _____ Pathway Option 3: _____

MSDE Cluster Title: _____

Approval Starts FY: _____

_____ _____

Signature, Assistant State Superintendent, Career Technology & Adult Learning Date

STEP 1B: DOCUMENTED LABOR MARKET DEMAND – Check the appropriate box below.

☒ Demand exists

The PAC will review labor market information on a local, regional and/or state basis. Check this box if demand exists for the identified occupations. The labor market information does not need to be provided with the proposal as long as there is a demand for employees according to data provided by the Department of Labor, Licensing and Regulation (DLLR) or documented by employers in letters or other correspondence.

☐ If evidence for labor market demand is not readily available, attach documentation to the proposal.

Check this box if there is a unique labor market demand for a program and data are not available from the Department of Labor, Licensing and Regulation (DLLR). If the occupation is new or emerging and no data exist, supporting evidence is submitted with the proposal (i.e. document local, national, or regional trends, local circumstances, or provide letters from employers or local economic/workforce development offices documenting employment demand including the projected number of openings by pathway).

STEP 2A: PROGRAM OVERVIEW – After determining the cluster and pathway options, identify the standards used to develop the CTE program of study. Describe the program to be developed in detail based on what students are expected to know and be able to demonstrate as a result of participating in the program.

Program Title: Automotive Technology
Title and source of the skills standards for this program: National Automotive Technicians Education Foundation (NATEF)

Program Overview: The Automotive Technician CTE Program of study is an instructional program that incorporates the Automotive Service Excellence (ASE) program certification standards and the National Automotive Technicians Education Foundation (NATEF) task lists. The program prepares students for further education and careers in the Transportation Equipment Pathway and automotive technology. The program consists of four courses that are divided into four groups: Suspension and Steering (A-4), Brakes (A-5) , Electrical/Electronic Systems (A-6), and Engine Performance (A-8).

Students participating in the Auto Technician Program will understand and be able to:

1. Develop workplace (employability) skills by demonstrating mastery of required academic and performance skills;
2. Demonstrate the ability to perform all tasks in a safe and expedient manner;
3. Demonstrate the ability to identify appropriate industry procedure/reference/estimation/training materials (both computerized and hardbound) to locate appropriate instructions and perform according to the stated guidelines;
4. Perform all diagnostic and repair tasks in accordance with manufacturer's recommended procedures;
5. Develop thinking skills by analyzing, troubleshooting and solving automotive repair problems utilizing late model vehicles and state of the art tools and equipment (A-4, A-5, A-6, A-8);
6. Utilize computerized equipment and software to collect and analyze fault codes and automotive operating and digital sending devices to isolate problem sources and perform corrective repairs (A-4, A-5, A-6, A-8);
7. Use industry standard fault locator devices in the testing and analysis of on-board computer systems, digital circuitry and other digital sending devices;
8. Troubleshoot noncode generating repair problems utilizing state-of the-art computer software and manuals to identify the sources of and symptoms of necessary repairs; and
9. Work in teams to analyze and solve challenging simulated and real world repair problems utilizing late model vehicles and state-of-the-art diagnostic tools and equipment. Under the supervision of ASE certified technicians, students troubleshoot, solve and repair complex problems as members of teams and individually.

The High School will:

1. Maintain the program's Automotive Technician NATEF Certification status (If NATEF certification is withdrawn or lapses, CTE program approval will be withdrawn.)
2. Agree to require students to take the NATEF NA3SA End-of Course Assessment for Suspension and Steering, Brakes, Electrical/Electronic Systems and Engine Performance.
3. Complete and and obtain the necessary signatures on the articulation agreement with CCBC at Attachment 1.

STEP 2B: COURSE DESCRIPTIONS AND END OF COURSE ASSESSMENTS – Insert each CTE completer course title. Describe each course based on what students are expected to know and be able to demonstrate as a result of their participation. Check the assessment instrument(s) that will be used to document student attainment of the knowledge and skills included in each course and specify additional information as appropriate.

Course Title: Suspension and Steering (A-4) [One Credit)

Course Description:

This course provides the student with the knowledge and skills necessary to pass the NATEF end-of-course assessment for Automobile Suspension and Steering and immediately enter a career in this area and/or attend post-secondary education and/or training. Students develop diagnostic, technical, problem-solving and academic skills through classroom instruction and hands-on maintenance applications. Through theory and real-world experiences, students master the concepts and the ability to research applicable vehicle and service information, collect and analyze relevant data, troubleshoot, identify, formulate proposed solutions to problems and perform necessary automobile suspension and steering repair tasks. Students will use state-of-the-art precision steering and alignment measurement tools and equipment to gather, analyze and make necessary repairs

Students will understand and be able to perform:

- Steering System Diagnosis and Repair
- Front Suspension Diagnosis and Repair
- Rear Suspension Diagnosis and Repair
- Related Suspension and SteeringService
- Wheel Alignment Diagnosis, Adjustment and Repair
- Wheel and Tire Diagnosis and Repair

End of Course Assessment

Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.

☐ Teacher-designed end-of-course assessment
☐ School system-designed end-of-course assessment
☐ Partner-developed exam: (specify) _____
☐ Licensing exam: (specify) _____
☐ Certification or credentialing exam: (specify) _____
☒ Nationally recognized examination: (specify) NATEF NA3SASuspension & Steering End-of- Course Assessment for CTE program completion (Students are required to take this.)

Course Title: Brakes (A-5) (One Credit)

Course Description: This course provides the student with the knowledge and skills necessary to pass the NATEF end-of-course assessment for Automobile Brakes and immediately enter a career in this area and/or attend postsecondary education and/or training. Students develop diagnostic, technical problem-solving and academic skills through classroom instruction and hands-on maintenance applications. Through theory and real-world experiences, students master the concepts and the ability to research applicable vehicle and service information, collect and analyze relevant data, troubleshoot, identify, formulate proposed solutions to problems and perform necessary automobile brake diagnosis and repair tasks. Students will use state-of-the-art precision brake measurement tools and equipment to gather, analyze make necessary NATEF required brake repairs tasks.

Students will understand and be able to perform:

- Hydraulic System Diagnosis and Repair
- Drum Brake Diagnosis and Repair
- Disk Brake Diagnosis and Repair
- Power Assist Units Diagnois and Repair
- Miscellaneous Diagnosis and Repair: Wheel Bearings
- Miscellaneous Diagnosis and Repair: Parking Brakes
- Miscellaneous Diagnosis and Repair: Electrical Diagnosis and Repair of Brake Light Sytem
- Electronic Brake, Traction and Stability Control Systems Diagnosis and Repair

End of Course Assessment

Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.

☐ Teacher-designed end-of-course assessment
☐ School system-designed end-of-course assessment
☐ Partner-developed exam: (specify) _____

☐ Licensing exam: (specify) _____
☐ Certification or credentialing exam: (specify) _____
☒ Nationally recognized examination: (specify) NATEF NA3SABrakes End-of-Course Assessment - (Students are required to take the NA3SA Brakes End-of- Course Assessment for CTE program completion.)

Course Title: Electrical/Electronic Systems (A-6) (Two Credits)
Course Description:
This course provides the student with the knowledge and skills necessary to pass the NATEF or AYES end-of-course assessment for Automobile Electrical/Electronic Systems and immediately enter a career in this area and/or attend postsecondary education and/or training. Students develop diagnostic, technical problem-solving and academic skills through classroom instruction and hands-on maintenance applications. Through theory and real-world experiences, students master the concepts and the ability to research applicable vehicle and service information, collect and analyze relevant data, troubleshoot, identify, formulate proposed solutions to problems and perform necessary automobile electrical and electronic systems repair tasks. Students will use state-of-the-art precision electronic measurement tools, fault code readers and equipment to gather, analyze make necessary NATEF required electrical and electronic system repairs.

Students will understand and be able to perform:
- General Electrical System Diagnosis
- Battery Diagnosis and Service
- Starting System Diagnosis and Repair
- Charging System Diagnosis and Repair
- Lighting System Diagnosis and Repair
- Gauge, Warning Devices and Driver Information Systems Diagnosis and Repair
- Horn Diagnosis and Repair
- Wiper/Washer Diagnosis and Repair
- Accessories Diagnosis and Repair

End of Course Assessment

Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.

☐ Teacher-designed end-of-course assessment
☐ School system-designed end-of-course assessment
☐ Partner-developed exam: (specify) _____
☐ Licensing exam: (specify) _____
☐ Certification or credentialing exam: (specify) _____
☒ Nationally recognized examination: (specify) NATEF NA3SAElectrical/Electronics End-of-Course Assessment - (Students are required to take the NATEF Electrical/Electronics End-of- Course Assessment for CTE program completion.)

Course Title: Engine Performance (A-8) One Credit)
Course Description: This course provides the student with the knowledge and skills necessary to pass the NATEF end-of-course assessment for Automobile Engine Performance and immediately enter a career in this area and/or attend postsecondary education and/or training. Students develop diagnostic, technical problem-solving and academic skills through classroom instruction and hands-on maintenance applications. Through theory and real-world experiences, students master the concepts and the ability to research applicable vehicle and service information, collect and analyze relevant data, troubleshoot, identify, formulate proposed solutions to problems and perform necessary automobile engine performance troubleshooting and repair tasks. Students will use state-of-the-art precision electronic engine performance measurement tools, fault code readers and equipment to gather, analyze make necessary NATEF required engine performance repairs.

Students will understand and be able to perform:
- Engine Related Service
- General Engine Diagnosis
- Computerized Engine Controls Diagnosis and Repair
- Ignition System Diagnosis and Repair
- Fuel Systems Diagnosis and Repair
- Air Induction System Diagnosis and Repair

- Exhaust System Diagnosis and Repair
- Emission Control System Diagnosis and Repair: Positive Crankcase Ventilation System
- Emission Control System Diagnosis and Repair: Exhaust Gas Recirculation System
- Emission Control System Diagnosis and Repair: Secondary Air Injection (AIR) and Catalytic Converter, Emission Control System Diagnosis and Repair: Evaporative Emission Controls

End of Course Assessment

Check the assessment instruments that will be used to document student attainment of the course knowledge and skills.

☐ Teacher-designed end-of-course assessment
☐ School system-designed end-of-course assessment
☐ Partner-developed exam: (specify) _____
☐ Licensing exam: (specify) _____
☐ Certification or credentialing exam: (specify) _____
☒ Nationally recognized examination: (specify) NATEF or NA3SA Engine Performance End- of- Course Assessment for CTE Program Completion Students are required to take the assessment.

STEP 2C: END-OF-PROGRAM ASSESSMENT - Check the assessment instruments that will be used to document student attainment of the program knowledge and skills. Include and identify assessments leading to industry recognized credentials if available and appropriate.

☐ Teacher-designed end-of-program assessment
☐ School system-designed end-of-program assessment
☐ Partner-developed exam: (specify) _____
☐ Licensing exam: (specify) _____
☐ Certification or credentialing exam: (specify) _____
☐ Nationally recognized examination: (specify) _____

STEP 2D: Program Sequence Matrix (Include the program sequences for High School, Associate's Degree, and Bachelor's Degree programs)
Identify the pathway options. Complete the program matrix for the 9-12 program, plus, for Tech Prep programs include the matrix for the two- or four-year college program of study. Indicate which courses receive CTE credit by placing the number of credits in parentheses after each CTE course title. Place an asterisk (*) next to the course identified as the concentrator course indicating that the student has completed 50% of the program.

The program matrix defines a planned, sequential program of study that consists of a minimum of four credits in CTE coursework including work-based learning and/or industry-mentored projects. Work-based learning experiences or industry-mentored projects must be included in the program to obtain approval. The program matrix includes the recommended academic and CTE courses identified for the pathway and postsecondary linkages (i.e., dual enrollment, Tech Prep, transcripted and articulated credit).

CTE programs typically begin after ninth grade and do not include career exploration courses. Courses such as computer applications and keyboarding are not included in the completer sequence because they provide prerequisite skills for both academic courses and CTE programs. Academic courses are counted only if they are tailored to serve mainly CTE students and have been revised to reflect industry skill standards. Technology Education or Advanced Technology Education courses are not acceptable for credit in the career and technology education program sequence.

Pathway/Program:	Automotive Technician		CIP Number (For MSDE Use)	47.0645
Graduation Requirements	Grade 9	Grade 10	Grade 11	Grade 12
English - 4	English 9	English 10	English 11	English 12
Social Studies - 3	US Government	World History	US History	
Mathematics - 3	Algebra 1	Geometry	Algebra 2	
Science - 3	Physical Science	Biology	Chemistry	
Physical Education - .5 Health Education - .5	.5 PE	.5 Health		
Fine Arts - 1	.5 Fine Arts	.5 Fine Arts		
Technology Education - 1	Technology Education			
CTE Completer Program – 5 *concentrator course			Suspension and Steering (1) Brakes (1)	*Electronic/Electrical Systems (2) Engine Performance (1) (**WBL)
Foreign Language - 2 and/or Advanced Tech Ed - 2	Spanish 1	Spanish 2		

Provide a list of examples of careers students are preparing to enter and postsecondary options:
Automobile Service Tech, Automobile Master Mechanic, Automobile Speciality Tech, Electronic Equipment Installer & Repairer - motor vehicle.

** Concentrator course is the 2nd course in the sequence.*
***Work-Based Learning (WBL) is an integral component of the program. WBL should be incorporated into the program dependent upon LSS delivery system (i.e. integrated or capstone WBL experience).*

STEP 2E: VALUE-ADDED OPTIONS – Fill in the name of the partnering college or agency. Specify the credential that students will earn. Under value-added, indicate the number of credits or hours granted. This information is required before a program can be designated as Tech Prep.

Option	Partner	Credential	Value added for CTE completers
Dual Enrollment			
Transcripted Credit			
Articulated Credit	CCBC Catonsville	Automobile Technology AAS Degree	Up to 18 Credit Hours earned for successfully completing the CTE program of study with a B and passing the NA3SA exams
Articulated Credit	Penn College	Automotive Technology AAS Degree, Automotive Technician two-Year Certificate or Automotive Technology Management BS Degree	Up to 15 Credit Hours earned for successfully completing the CTE program of study with a B and passing the NA3SA exams
Credit by Exam			
Advanced Placement			
Apprenticeship Approved by MATC**			
Certification(s)			
License			
Degree			
Other (specify)			

*To obtain credit for Automobile Technology Courses through Dual enrollment, the High School Instructor must be accepted as CCBC Adjunct Professor or students must take the course at CCBC and students must pay discounted Dual Enrollment Tuition fee
**MD Apprenticeship and Training Council

STEP 2F: INDUSTRY-MENTORED PROJECT OR WORK-BASED LEARNING OPPORTUNITIES PROVIDED – Check each box that applies.

PAC members and other industry partners provide supervised (WBL) experiences and/or industry-mentored projects for all students who demonstrate performance of the competencies necessary to enter into this phase of the program. Supervised work-based learning experiences are required for all students demonstrating readiness to participate. For the few who do not participate, alternative capstone experiences should be provided (i.e., in school work experiences, a culminating project, or another experience comparable in rigor). Each type of work-based learning is defined in the glossary. Job shadowing is not acceptable for credit in a CTE program.

1. ☐ Integrated WBL
2. ☒ Capstone WBL
3. ☐ Registered Apprenticeship
4. ☐ Internship
5. ☐ Industry-Mentored Project
6. ☐ In-school clinic or school-based enterprise

STEP 2G: STUDENT ORGANIZATIONS PROVIDED TO STUDENTS IN THE PROGRAM – Check each box that applies or specify if "Other" is selected.

Students will develop and apply technical and academic skills, as well as Skills for Success, through participation in:

☐ DECA ☐ FFA ☒ SkillsUSA ☐ FBLA ☐ HOSA ☐ OTHER (specify) ____

Appendix – F

Tax Credits/
Workers' Compensation

MARYLAND STATE DEPARTMENT OF EDUCATION
Achievement Matters Most

Nancy S. Grasmick
State Superintendent of Schools

200 West Baltimore Street · Baltimore, MD 21201 · 410-767-0100 · 410-333-6442 TTY/TDD

WORKERS' COMPENSATION
STUDENTS IN UNPAID WORK-BASED LEARNING EXPERIENCES
FACT SHEET

The 2003 Maryland General Assembly passed legislation that expanded workers' compensation coverage to include students in unpaid work-based learning experiences. This legislation is codified in the Annotated Code of Maryland, Education Article §7-114. This fact sheet provides information on workers' compensation and specifically, the provisions of the law that took effect July 1, 2003.

1. **Overview of workers' compensation:**

   Workers' compensation laws are designed to ensure that employees who are injured or disabled on the job are provided with compensation thereby, eliminating the need for litigation. These laws also provides for medical expenses incurred as a result of job-related injuries and provide benefits for dependents of those workers who are killed because of work-related accidents or illness.

   Maryland's law provides students with coverage under the Workers' Compensation Act. It protects students against medical expenses incurred as a result of job-related injuries and provides them with compensation for such injuries. In addition, it limits employers' general liability should a student in an unpaid work-based learning experience sustain an injury while at a work site.

   The law defines a student who is placed with an employer as part of an unpaid work-based learning experience as a covered employee of that employer, for the purposes of workers' compensation. Without this law, employers could be vulnerable to tort actions by injured students.

2. **Workers' compensation for Maryland's students:**

   Prior to 2003, worker's compensation laws in Maryland covered individuals who were in paid work situations and students with disabilities who had been placed with an employer in an unpaid assignment as part of an individualized education program (Education Article, Annotated Code of Maryland §8-402). During the 2003 Maryland General Session, a law was enacted which extended workers' compensation coverage to include all students in unpaid work-based learning situations (Education Article, Annotated Code of Maryland §7-114).

3. **What will it cost employers to have students covered under workers' compensation?**

   Workers' compensation premiums are based on the rates established for categories of employment within industries multiplied by an employer's payroll for each category. The number of workers' compensation claims made against a particular employer may also impact the cost of premiums (e.g., an employer's experience rating). Since students in unpaid work-based learning experiences do not increase an employer's payroll for any category, little or no additional cost in premiums should occur.

3. **What will it cost employers to have students covered under workers' compensation? (Continued)**

   The law states that the participating employer where a student is placed in an unpaid work-based learning experience shall secure workers' compensation for that student. This obligation may be satisfied if the county board chooses to secure workers' compensation for that student. If the county board chooses to secure workers' compensation coverage, the participating employer shall reimburse the county board the lesser of: the cost of the premium for the workers' compensation insurance coverage; or a fee of $250.

4. **What is considered a "work-based learning experience" under this law?**

   The law defines "unpaid work-based learning experience" as a program that provides a student with structured employer-sponsored learning that occurs in the workplace; links with classroom instruction; is coordinated by a county board (local school system); and is conducted in accordance with the terms of an individual written work-based learning agreement between the county board of education (local school system) and the employer. Once these conditions are met, the student is considered a covered employee of that employer for the purposes of workers' compensation laws.

5. **Are there any specific records to be kept for students in unpaid work-based learning experiences?**

   Schools should maintain records of students in work-based learning experiences. However, employers should keep minimum records including students' names, addresses, social security numbers, dates and hours worked, and any other information required by the workers' compensation coverage.

6. **How does this new legislation, §7-114 Workers' compensation coverage for students in unpaid work-based learning experience positions, affect the current legislation, §8-402 Workers' compensation for a child with a disability?**

   The Education Article §8-402, defines a student with a disability who is placed with an employer in an unpaid work assignment as part of an individualized education program is a covered employee of the employer. The employer must provide workers' compensation coverage for the child, however, the school system may secure workers' compensation coverage for that child. The school system can not request reimbursement for the coverage from the employer.

   If a student with a disability is placed with an employer in an unpaid work assignment but not as part of an individualized education program, the new statute, §7-114 covers the student. In this case, the employer provides the coverage or the school system may provide the coverage. If the school system chooses to provide the coverage, the participating employer shall reimburse the school system the lesser of the cost of the premium or a fee of $250.

7. **For more information contact:**

Jeanne-Marie S. Holly,
Program Manager, CTE Systems,
Career Technology and Adult Learning,
Maryland State Department of Education,
200 West Baltimore Street,
Baltimore, Maryland 21201,
(410) 767-0182 (Office), (410) 333-2084 (Fax),
E-Mail: jmholly@msde.state.md.us

Paid work-based learning opportunities provide youth with "real world" work experiences, related to a program of study or career major. Youth can see the connection between academic and technical studies learned in the classroom and the skills needed to be part of a work environment, such as thinking, interpersonal and communication skills. Through a written agreement, employers, school staff, students and their parents/ guardians know what is expected in the work-based program.

Employers play a key role in helping youth understand the requirements of a work environment. Youth learn, first hand that business and industry must be flexible to keep current with the ever changing economic and workplace needs. Continuing education and learning are required for employees as this environment changes.

For More Information Contact
Maryland State Department of Education
200 West Baltimore Street
Baltimore, Maryland 21201
Phone: (410) 767-0187
Fax: (410) 333-2084
Website: www.marylandpublicschools.org/MSDE/divisions/careertech

For more information contact the Local Work Force Investment Board for your area:

Anne Arundel County
410-987-3890

Baltimore City
410-396-1910

Baltimore County
410-887-2008

Frederick County
301-600-2255

Lower Shore
(Somerset, Wicomico, Worcester)
410-341-3835

Mid-Maryland
(Carroll and Howard)
410-290-2620

Montgomery County
240-777-2022

Prince George's County
301-618-8425

Southern Maryland
(Calvert, Charles, St. Mary's)
301-274-1922

Susquehanna Region
(Cecil and Harford)
410-939-4240

Upper Shore
(Queen Anne's, Caroline, Talbot, Dorchester, Kent)
410-822-1716

Western Maryland
(Allegany, Garrett, Washington)
301-791-3076

Martin O'Malley, Governor
Nancy S. Grasmick, State Superintendent of Schools
Katharine M. Oliver, Assistant State Superintendent
Career and College Readiness

Maryland's

WORK-BASED LEARNING TAX CREDIT

Earn a Tax Credit While Investing In a Young Person's Career

Maryland *offers a tax credit to employers for approved, paid work-based learning programs for students that provide a structured employer-supervised learning experience.*

What is the Work-Based Learning Tax Credit?

The tax credit is authorized for the taxable years beginning after December 31, 2008 and on or before December 31, 2012.

Credit may be claimed for each student employed for a minimum of 200 hours during a taxable year.

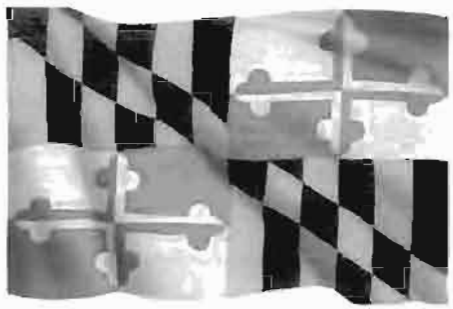
The credit will equal 15 percent of the wages paid to a student during the taxable year in which the Work-Based Learning Program took place.

Total credit granted to an employer in the current taxable year and all previous taxable years may not exceed $1500 per student.

Students must be enrolled in private or public, secondary or postsecondary institutions and be between the ages of 16 through 23.

Who is Eligible for the Tax Credit?

- An employer
- A group of employers
- An industry trade association
- A labor organization
- An operator of a registered apprenticeship program



How Many Tax Credits will be Authorized?

The Maryland State Department of Education may authorize work-based learning tax credits for up to 1000 students annually.

What are the steps to obtain a Tax Credit?

MARYLAND STATE DEPARTMENT OF EDUCATION
Achievement Matters Most

- Provide a paid work-based learning experience for students.
- Partner with education to structure an approved work-based learning program.
- Complete the Work-Based Learning Certification form available from the MSDE website:
  http://msde.state.md.us/wbltc/certification.pdf
- Contact the WBL Coordinator in the school or Local Work Force Investment Board for additional requirements and next steps. A list of contact phone numbers can be found on the back of this brochure.
- Eligible employers will be authorized for the tax credit and notified by the Maryland State Department of Education.

Appendix – G

Career Development Frame Samples

MSDE Home
- Divisions
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  - Academic Policy
  - Accountability and Assessment
  - Career and College Readiness
    - Overview
    - Career Technology
      - Career and Technology Education (CTE)
      - Career Clusters
      - CTE Programs
      - Student Organizations
      - Tools and Support
        - Maryland's Career Development Framework and Resources
        - Tools and Support
      - Perkins IV
      - Publications
      - Contacts
      - Accountability
      - 2009 CTE Awards of Excellence Ceremony Photos
      - Business Management and Finance State Advisory Council
      - CTE Awards of Excellence
      - CTE Task Force
      - Financial Literacy Education Advisory Council
      - Financial Literacy Education Advisory Council June 15 2009 Meeting
      - Financial Literacy Education Advisory Council October 22 2009 Meeting
      - Information Technology State Advisory Group
      - Technology

Divisions

Divisions > Career and College Readiness > Career Technology > Tools and Support

Maryland's Career Development Framework and Resources

Maryland's Career Development Framework was developed to teach individuals, Pre-K through adult, how to make appropriate choices regarding their education and career paths. The framework is driven by standards from the National Career Development Guidelines and includes six of the career development standards: Self Awareness, Career Awareness, Career Exploration, Career Preparation, Job Seeking and Advancement, and Career Satisfaction and Transition. Decision-making is a cross-cutting skill that is embedded into each standard in the framework's design.

The framework is aligned with the format of the Maryland Voluntary State Curriculum (VSC) and the Skills For Success (Learning, Thinking, Communication, Technology, and Interpersonal skills). It provides a developmental process for schools to give students an understanding of their individual traits, career aspirations, motives, and learning styles and imparts life-long skill sets that are transferable as children mature into adults.

In elementary school, children begin to learn more about themselves and build confidence. In middle school, students continue that personal reflection, begin to explore the world around them, and make connections between the academic subjects learned in school and the relationship school work has to the work world. Students begin charting their academic/career plan and choose a high school program of study that matches their future aspirations. Students continue to use their decision-making skills to manage their academic and career plans, concentrate on developing their academic and technical skills, and begin to explore postsecondary and career-based options. In Maryland, at the high school level, students have many options to choose from in planning coursework to complete graduation requirements including the Maryland Career Technology Education (CTE) Programs of Study.

The career development process is a lifelong continuum of learning that requires the use of decision-making skills as children and adults transition from one learning or career aspect of their lives to the next. Starting this process early is one of the keys for equipping students to prepare for their future education and careers. Maryland is proud to use a standards-based approach to implement the career development process. Through instructional strategies in grades Pre-K through 6 and through Career Guidance and Advisory programs at the school-building level for students in grades 7-12, students are better prepared to make informed decisions about their high school academic and technical course of study and future career choices.

Companion resources have been created using the framework's standards to assist with implementation of Career Guidance and Advisory

Education
› Juvenile Services Education
› Certification and Accreditation
› Deputy Superintendent for Administration
› Early Childhood Development
› Finance
› Information Technology
› Instruction
› Instruction and Academic Acceleration
› Leadership Development
› Library Services
› Office of the State Superintendent
› Rehabilitation Services
› Special Education and Early Intervention
› Student, Family, and School Support

Programs for Grades 7-12. This allows for the attainment of a systemic approach for school guidance and advisement that stresses both academic and career planning. Resources have also been developed for adult learners. The Maryland Adult Career Development Toolkits provide lessons that can be used to teach the career development process in group or individual settings for adults and includes interactive web-based resources.

For more information, please contact Susan Oskin, Career Technology Education Specialist, at (410)767-0635 or at soskin@msde.state.md.us.

Contact Information

Susan Oskin, Career and Technology Education Specialist
Maryland State Department of Education
Division of Career Technology and Adult Learning
200 West Baltimore Street
Baltimore, MD 21201
Phone: (410) 767-0635
Fax: 410-333-2099
Email: soskin@msde.state.md.us

Maryland Career Development Framework
Grades Pre-K – Postsecondary (PS)/Adult

Standard 1: Self-Awareness – Students shall acquire and apply self-knowledge in order to develop personal, learning and career goals.				
Indicator A. Acquire and apply self-knowledge to understand one's abilities, strengths, interests, skills, and talents as seen by self and others.				
Pre-K – 2	**Grades 3-5**	**Grades 6-8**	**Grades 9-12**	**PS/Adult**
1. Identify one's interests and likes and dislikes and how they impact one's self concept.	1. Identify one's positive personal characteristics (honesty, dependability, responsibility, integrity, and loyalty).	1a. Demonstrate behavior and decisions that reflect one's interests, likes and dislikes. 1b. Identify one's abilities, strengths, skills and talents as seen by self and others and explain the significance to one's education and career plans.	1a. Integrate a broad range of interests into one's personal learning and career goals, and assess the impact of abilities, strengths, skills, and talents on one's career development. 1b. Evaluate how positive personal characteristics affect one's career development.	1. Expand and/or modify interests and adjust one's personal learning and career goals.
2.	2. Explore actions that will build and maintain a positive self-concept.	2. Demonstrate and evaluate behaviors that show self-confidence, sense of self efficacy, and a positive self-concept.	2. Explain and assess how one's self-concept affects and promotes both educational achievement and success at work.	2. Assess the impact of educational achievement and/or success at work on one's self-concept.
3. Recognize that situations, attitudes, and the behavior of others affect one's self-concept and that of others.	3. Explain how specific situations, attitudes, and the behavior of others affect one's self-concept and that of others.	3. Engage in behaviors and express attitudes that positively affect one's self concept and the self-concept of others.	3. Evaluate how the impact of situations, attitudes, and the behaviors of others affect one's self concept and how one's behaviors and attitudes affect the self-concept of others.	3. Re-examine and adjust, when necessary, behaviors and attitudes to express a positive self-concept.

Revised January, 2010

http://www.marylandpublicschools.org/MSDE/divisions/careertech/career_technology/tools_support/mcdfr.htm

Indicator B. Demonstrate positive interpersonal skills and respect for diversity to facilitate one's career development.				
Pre-K – 2	**Grades 3-5**	**Grades 6-8**	**Grades 9-12**	**PS/Adult**
1. Identify positive social skills and manners including demonstrating gratitude when interacting with others in a way that is honest, fair, helpful and respectful.	1. Demonstrate and evaluate how one's positive social skills, manners, and demonstration of gratitude contribute to effective interactions with others in group activities.	1. Assess the degree to which one interacts and uses feedback to adjust behavior in group activities in a way that is honest, fair, helpful, and respectful.	1. Assess the degree to which one interacts and uses feedback to adjust behavior in group activities in a way that is honest, fair, helpful, and respectful.	1. Assess the degree to which one interacts and uses feedback to adjust behavior in group activities in a way that is honest, fair, helpful, and respectful.
2. Identify the difference between appropriate and inappropriate behaviors in specific school and social situations.	2. Assess the consequences of appropriate and inappropriate behavior and the effects of outside pressure in specific school, and social situations.	2. Demonstrate and assess the degree to which one accepts responsibility for personal actions including dealing with outside pressures and contributing to group activities.	2. Demonstrate and assess the degree to which one accepts responsibility for personal actions including dealing with outside pressures and contributing to group activities.	2. Demonstrate and assess the degree to which one accepts responsibility for personal actions including dealing with outside pressures and contributing to group activities.
3. Demonstrate use of rules and procedures to work cooperatively with others in a variety of group situations, including the impact on one's learning and academic achievement.	3. Identify and apply goals, rules, procedures, roles, and resources to work cooperatively in group activities, including the impact on one's learning and academic achievement.	3. Analyze the impact of academic achievement on one's ability to work cooperatively in a group.	3. Evaluate individual and group performance and plan improvements using explicit criteria.	3. Evaluate individual and group performance and plan improvements using explicit criteria.
4. Identify conflicts and explain the importance of resolving group conflict cooperatively and peacefully.	4. Identify and resolve conflicts using skills such as consensus, compromise, collaboration, avoidance, and accommodation.	4. Identify and resolve conflicts and bring to consensus when appropriate.	4. Demonstrate the ability to support group decisions, respect dissenting positions, and/or use consensus.	4. Demonstrate the ability to support group decisions, respect dissenting positions, and/or use consensus.

Pre-K – 2	Grades 3-5	Grades 6-8	Grades 9-12	PS/Adult
5. Practice effective communication strategies such as paraphrasing, reflections, active listening, and assertive communication.	5. Practice effective communication strategies such as paraphrasing, reflections, active listening, and assertive communication.	5. Demonstrate, problem-solve and evaluate communication experiences and one's use of effective strategies such as paraphrasing, reflections, active listening, and assertive communication.	5. Demonstrate, problem-solve, and evaluate communication experiences and one's use of effective strategies such as paraphrasing, reflections, active listening, and assertive communication.	5. Demonstrate, problem-solve, and evaluate communication experiences and one's use of effective strategies such as paraphrasing, reflections, active listening, and assertive communication.
Indicator C. Recognize that growth and change are integral parts of the career development process.				
Pre-K – 2	**Grades 3-5**	**Grades 6-8**	**Grades 9-12**	**PS/Adult**
1. Describe how one has grown and changed.	1. Describe how one has grown and changed.	1. Recognize that one will experience growth and change in mind and body throughout life.	1. Analyze the results of one's growth and changes throughout life to determine future growth opportunities.	1. Analyze the results of one's growth and changes throughout life to determine future growth opportunities.
2. Identify situations in which one might need assistance from people or other resources (e.g. school problems).	2. Identify situations in which one might need assistance from people or other resources (e.g. school problems).	2a. Identify situations and access resources, including other people, to seek assistance when needed. 2b. Recognize that external events often cause life changes. 2c. Identify one's motivations and aspirations.	2. Identify situations (e.g. applying to college, seeking employment, experiencing problems in school, encountering financial instability, developing a disability, and design strategies to access resources, including other people, to seek assistance when needed.	2. Appraise strategies for accessing people and other resources when assistance is needed.
3. N/A	3. N/A	3. Demonstrate adaptability and flexibility when initiating or responding to change.	3. Demonstrate and analyze how effectively one responds to change and/or initiates change.	3. Evaluate strategies for managing life changes caused by external events.

4. N/A	4. N/A	4. Recognize that one's motivations and aspirations are likely to change with time and circumstances.	4. Explain how one's motivations and aspirations have changed with time and circumstance.	4. Assess how changes in one's motivations and aspirations over time have affected one's career development.
Indicator D. Apply self-knowledge to decision making and goal-setting.				
Pre-K – 2	**Grades 3-5**	**Grades 6-8**	**Grades 9-12**	**PS/Adult**
1. Recognize that everyone is a decision-maker.	1a. Recognizes that self-knowledge enables one to make decisions, and effectively plan. 1b. Explain financial choices based on available resources, needs and wants.	1a. Demonstrate an awareness of one's strategic thinking to make effective decisions about one's goals for learning and performance. 1b. Assess one's career and academic interests to make decisions about academic course selection and career program of study choices. 1c. Analyze financial choices based on available resources, needs, and wants for goods and services.	1a. Plan and follow steps to make effective decisions and achieve goals for learning and performance. 1b. Revise academic and career plan to reflect one's growth and development. 1c. Evaluate financial choices based on available resources, needs, and wants for goods and services	1a. Monitor, evaluate, and make necessary adjustments in goals, plans, and actions. 1b. Monitor financial choices based on available resources and make adjustments in goals, plans, and actions.

Standard 3: Career Exploration – Students shall assess career cluster choices and related career pathways including Career Technology Education (CTE) programs of study in order to develop an academic and career plan.				
Indicator A. Prepare an academic and career plan based on high school graduation requirements, a sequence of Career Technology Education (CTE) program of study courses, related academics and postsecondary options.				
Pre-K – 2	**Grades 3-5**	**Grades 6-8**	**Grades 9-12**	**PS/Adult**
1. N/A	1. Understand that effective planning facilitates the attainment of personal and career goals.	1. Develop an academic and career plan that includes postsecondary options.	1. Review one's academic and career plan, including postsecondary options and make modifications on an annual basis.	1. Modify one's plan as needed to reflect ongoing career decisions.
2. N/A	2. N/A	2. Explore the requirements for effective transition from one learning level to the next (i.e. middle to high school and high school to postsecondary).	2. Demonstrate the knowledge and skills necessary to transfer effectively from one learning level to the next.	2. Demonstrate the knowledge and skills necessary to transfer effectively from a two-and four-year college degree to a graduate school program.
3. N/A	3. N/A	3. Investigate program sequences for career clusters including CTE programs of study of interest that overlap with other career pathways.	3. Design a program sequence for selected academic/career options including, if applicable, CTE programs of study, postsecondary education and/or training opportunities.	3. Assess program sequence for selected academic/ career-related program of study and modify plan.
4. Explore specific learning experiences that are school-based and related to Maryland's career clusters.	4. Explore specific learning experiences within Maryland's career clusters.	4. Explore specific learning experiences within and across career clusters.	4. Apply academic/career-related content standards including CTE programs of study, if applicable, to work-based learning experiences and one's program sequence (high school plan).	4. Apply academic/career-related content standards including CTE programs of study to work-based learning experiences and one's career management plan.

Pre-K – 2	Grades 3-5	Grades 6-8	Grades 9-12	PS/Adult
5. N/A	5. N/A	5. Select options for further education and/or training (i.e. dual enrollment, articulated credit, advanced placement, certification, two-year colleges, four-year colleges, apprenticeships, and technical schools).	5. Select options for further education and/or training (i.e. dual enrollment, articulated credit, advanced placement, certification, two-year colleges, four-year colleges, apprenticeships, and technical schools.)	5. Select options for further education and/or training (two-and four-year college/universities, credit by exam, apprenticeships, technical schools.)
Indicator B. Use a process/model for knowing and thinking about how one makes decisions.				
Pre-K – 2	**Grades 3-5**	**Grades 6-8**	**Grades 9-12**	**PS/Adult**
1. N/A	1. Identify a process/model for making decisions.	1. Explain/apply steps of a decision-making model to inform academic and career planning.	1. Demonstrate the use of a decision-making model to inform academic and career planning on an ongoing basis.	1. Demonstrate the use of a decision-making model on a consistent basis as part of one's ongoing career management.
2. N/A	2. N/A	2. Identify how one's culture, beliefs, and attitudes impact one's career decisions.	2. Describe the impact of one's culture, beliefs, and attitudes on one's career decisions.	2. Describe the impact of one's culture, beliefs, attitudes, work values, and family life on one's career decisions.

Appendix – H

Transportation Technologies Program Advisory Committee

MSDE Transportation Technologies Program Advisory

LAST NAME	FIRST NAME	ORGANIZATION	E-Mail Address
1. Anderson	Debra	Montgomery College	Debra.anderson@montgomerycollege.edu
2. Ashby	Bryan	Wicomico County Board of Education	bashby@wcboce.org
3. Beck	Mike	MSDE	mbeck@msde.state.md.us
4. Bolton	Theresa	The National Institute for Automotive Service Excellence (ASE)	tbolton@ase.com
5. Bolton	Rodney	Center of Applied Technology North	rbolton@aacps.org
6. Cox	Jamie	Calvert Career Center	coxj@calvertnet.k12.md.us
7. Czapla	Don	Mile One	dczapla@mileone.com
8. Davis	Jack	Community College of Baltimore Co.	jdavis@ccbcmd.edu
9. England	Brian	British American Auto Care	bengland@britishamericanauto.com
10. Gardner	Matt	Carroll County CTE Center	megardn@k12.carr.org
11. Glenn	Richard (Ric)	Automotive Youth Educational Systems-MD Automobile Dealers	Rglenn8199@aol.com
12. Hagerty	Brian	Browns Honda City	bhagerty@brownscar.com
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18. Kersten	Bill	NATEF	bkersten@ase.com
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21. McLaughlin	Clyde	Chesapeake Impact Services	Chesapeakeisz2@verizon.net
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27. Rainey	Kelly	Auto Collision, Inc.	Aci.autocollisioninc@yahoo.com
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29. Rogers	Bob	State Farm Insurance	Robert.L.Rogers.A88A@statefarm.com
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32. Oliver	Katharine	MSDE	koliver@msde.state.md.us
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34. White	David	Wicomico County Board of Education	dwhite@wcboe.org.
35. Wilfong	Gary	Frederick County CTE Center	wilfongg@careertech.net
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Appendix – I

Articulation Agreement
CCBC & Pennsylvania College

MARYLAND STATE DEPARTMENT OF EDUCATION
Achievement Matters Most

Nancy S. Grasmick
State Superintendent of Schools

200 West Baltimore Street · Baltimore, MD 21201 · 410-767-0100 · 410-333-6442 TTY/TDD

STATEWIDE ARTICULATION AGREEMENT BETWEEN THE COMMUNITY COLLEGE OF BALTIMORE COUNTY AND THE MARYLAND STATE DEPARTMENT OF EDUCATION ON BEHALF OF LOCAL SCHOOL SYSTEMS

This articulation agreement can be used for students enrolling in the: Automotive Technology AAS Degree program at The Community College of Baltimore County (CCBC)

Maryland State Department of Education (MSDE) and The Community College of Baltimore County (CCBC) enter into this articulation agreement in order to facilitate the enrollment of students from the Maryland Career and Technology Education (CTE) Program of Study in **Automotive Technology** National Automotive Technicians Education Foundation (NATEF), CIP 47.0645 into CCBC's Automotive Technology Comprehensive program. Both parties agree to annually review the document and update as appropriate.

Subject to terms of this agreement, a student who successfully completes the approved Maryland CTE Program of Study in Automotive Technology/NATEF, CIP 47.0645: Brakes (1 credit), Electrical/Electronic Systems (2 credits), Engine Performance (1 credit), Suspension and Steering (1 credit) will be granted articulated credit at CCBC for the following courses:

• AUTO 126	Repairing Automotive Brakes Systems	4 credits
• AUTO 131	Servicing Automotive Electrical and Electronic Systems	5 credits
• AUTO 141	Servicing Automotive Engines and Related Systems	5 credits
• AUTO 171	Repairing Automotive Steering and Suspension Systems	4 credits
Total Credits		**18 credits**

Note: All programs eligible to participate in the Articulation Agreement must be currently NATEF certified.

The terms of this agreement are as follows:

Maryland Local Schools Systems will:

- Offer the Maryland Career and Technology Education (CTE) Program of Study in Automotive Technology/NATEF, CIP 47.0645, as stated in the Maryland CTE program proposal as attached;
- Communicate details of this agreement to principals, teaching staff, guidance personnel, students and parents and/or guardians; and
- Maintain NATEF program certification.

Full or partial articulated credit will be awarded based on the following when students:

- Complete all required courses of the entire Maryland CTE Automotive Technology/NATEF Program of Study with a grade of B or better: Brakes, Electrical/Electronic Systems, Engine Performance and Suspension and Steering;
- Sit for and pass the National Automotive Student Skills Standards Assessment (NA3SA) end-of-course exams: Brakes, Electrical/Electronic Systems, Engine Performance and Suspension and Steering. Articulation credit will only be awarded for the exams passed;
- Provide a copy of their official NATEF/NA3SA student certification to CCBC prior to August 1st of the academic year;
- Meet the admission dates, procedures that apply to all new students at CCBC, and current college policies on Advanced Credit; and
- Apply to CCBC within three years of high school graduation.

The Community College of Baltimore County will:

- Arrange meetings, as requested, with faculty and students on the Maryland NATEF Program school campuses to provide information and assistance in matriculating at CCBC;
- Supply MSDE and local school systems with promotional literature that will be used to assist students with the application and/or transfer process;
- Communicate details of this agreement to staff in admissions, academic affairs, and faculty;
- Award the appropriate number of academic and/or technical credits, as specified in this agreement, upon review of the student's transcript and completion of the application process;
- Notify student of credits awarded; and
- Provide a list of student credits awarded to MSDE each spring.

Maryland State Department of Education will:

- Communicate details of this agreement with local school systems via CTE Directors;
- Confirm programs participating in the articulation agreement are currently NATEF certified;
- Provide CCBC with a list of centers (and their feeder schools) offering approved Maryland CTE Programs of Study in Automotive Technology/NATEF, CIP 47.0645 annually; and
- Provide CCBC with a list of CTE Directors annually.

ARTICULATION AGREEMENT
The COMMUNITY COLLEGE OF BALTIMORE COUNTY
AND THE
MARYLAND STATE DEPARTMENT OF EDUCATION
ON BEHALF OF LOCAL SCHOOL SYSTEMS
AUTOMOTIVE TECHNOLOGY

The undersigned agree to uphold all requirements of this agreement, including an annual review with appropriate updates. For just cause, either party can terminate the agreement given ninety days written notice. If the agreement is terminated, all student credits previously awarded will remain unaffected.

For Maryland State Department of Education:

Katharine M. Oliver,
Assistant State Superintendent of Schools
Division of Career and College Readiness
Maryland State Department of Education

12/28/09
Date

APPROVED FOR FORM AND LEGAL SUFFICIENCY
Assistant Attorney General
Maryland State Department of Education

For The Community College of Baltimore County:

Dr. Sandra L. Kurtinitis
President

Dr. Mark McColloch
Vice President of Instruction

Mike Netzer
Dean

Articulation Agreement Signature Page Between
Maryland State Department of Education on
Behalf of Local School Systems and
The Community College of Baltimore County

MSDE Automotive Technology Program	
Course Title	Credits
Suspension and Steering	1
Brakes	1

CCBC Program Title		
Course No.	Course Title	Credit Awarded
AUTO171	Repairing Automotive Steering & Suspension Systems	4
AUTO126	Repairing Automotive Brake Systems	4

or

MSDE Automotive Technology Program	
Course Title	Credits
Electrical/Electronic Systems	2
Engine Performance	1

CCBC Program Title		
Course No.	Course Title	Credit Awarded
AUTO131	Servicing Automotive Electrical & Electronics Systems	5
AUTO141	Servicing Automotive Engines & Related Systems	5

Katharine M. Oliver, 12/25/09
Assistant State Superintendent of Schools
Division of Career and College Readiness
Maryland State Department of Education

Dr. Mark McColloch 12/11/09
Vice President of Instruction

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MARYLAND STATE DEPARTMENT OF EDUCATION
Achievement Matters Most

Nancy S. Grasmick
State Superintendent of Schools

200 West Baltimore Street • Baltimore, MD 21201 • 410-767-0100 • 410-333-6442 TTY/TDD • MarylandPublicSchools.org

STATEWIDE ARTICULATION AGREEMENT BETWEEN PENNSYLVANIA COLLEGE OF TECHNOLOGY AND THE MARYLAND STATE DEPARTMENT OF EDUCATION ON BEHALF OF LOCAL SCHOOL SYSTEMS

This articulation agreement can be used for students enrolling in the following programs: Automotive Technology AAS Degree, Automotive Technician Two-Year Certificate, or Automotive Technology Management BS Degree at Pennsylvania College of Technology (Penn College).

Maryland State Department of Education (MSDE) and Pennsylvania College of Technology (Penn College) enter into this articulation agreement in order to facilitate the enrollment of students from the Maryland Career and Technology Education (CTE) Program of Study in **Automotive Technology**/National Automotive Technicians Education Foundation (NATEF), CIP 47.0645 into Penn College. Both parties agree to annually review the document and update as appropriate.

Subject to terms of this agreement, a student who successfully completes the approved Maryland CTE Program of Study in Automotive Technology/NATEF, CIP 47.0645: Electrical/Electronic Systems (2 credits), Brakes (1 credit), Suspension and Steering (1 credit), Engine Performance (1 credit) will be granted advanced credit at Penn College for the following courses:

• AMT 109	Automotive Electrical Fundamentals	3 credits
• AMT 112	Brake Systems	3 credits
• AMT 113	Steering and Suspension	3 credits
• AMT 121	Automotive Fuel and Emission Control Systems	2 credits
• AMT 126	Engine Electrical Systems	4 credits
Total Credits		**15 credits**

Note: All programs eligible to participate in the Articulation Agreement must be currently NATEF certified.

Program Articulation for the Career and Technology Education
Automotive Technician Program
The Maryland State Department of Education
Pennsylvania College of Technology (Penn College)

The purpose of this document is to outline responsibilities for ensuring that students earn college credit for the Automotive Technology/National Automotive Technicians Education Foundation (NATEF) Program of Study that meets requirements specified in the articulation agreement between Maryland Local School Systems (LSS) and Pennsylvania College of Technology (Penn College). Representatives from the Maryland State Department of Education (MSDE), Penn College, local school systems and transportation technology students share responsibilities.

Maryland Local School Systems will:

- Offer the Maryland Career and Technology Education (CTE) Program of Study in Automotive Technology/ NATEF, CIP 47.0645, as stated in the Maryland CTE program proposal; and
- Communicate details of this agreement to principals, teaching staff, guidance personnel, students and parents and/or guardians.

Students will:

Note: Full or partial articulated credit will be awarded based on the following

- Complete the entire Maryland CTE Automotive Technology/NATEF Program of Study by taking all required courses: Electrical/Electronic Systems, Brakes, Suspension and Steering, and Engine Performance;
- Sit for and pass the National Automotive Student Skills Standards Assessment (NA3SA) end-of-course assessments; (Electrical/Electronic Systems, Brakes, Suspension and Steering, and Engine Performance). Articulation credit will only be awarded for the exams passed;
- Provide a copy of their official NATEF/NA3SA student certification to Penn College prior to July 1 of the academic year;
- Receive a Maryland high school diploma;
- Meet the admission dates, procedures that apply to all new students at the Pennsylvania College of Technology, and current college policies on Advanced Credit; and
- Apply to Penn College within three years of high school graduation.

Pennsylvania College of Technology will:

- Arrange meetings, as requested, with faculty and students on the Maryland NATEF Program school campuses to provide information and assistance in matriculating at Penn College;
- Supply MSDE and local school systems with promotional literature that will be used to assist students with the application and/or transfer process;
- Communicate details of this agreement to staff in admissions, academic affairs, and faculty;
- Award the appropriate number of academic and/or technical credits, as specified in this agreement, upon review of the student's transcript and completion of the application process;
- Notify student of credits awarded;
- Provide an updated list of student credits earned to MSDE each spring; and
- Notify student's teacher and copy the CTE Director, based upon student's self-identification, to verify the program is NATEF certified and request recommendation.

Maryland State Department of Education will:

- Communicate details of this agreement with local school systems via CTE Directors;
- Confirm programs participating in the articulation agreement are currently NATEF certified;
- Provide Penn College with a list of centers (and their feeder schools) offering approved Maryland CTE Programs of Study in Automotive Technology/NATEF, CIP 47.0645 annually; and
- Provide Penn College with a list of CTE Directors annually.

ARTICULATION AGREEMENT
PENNSYLVANIA COLLEGE OF TECHNOLOGY
AND THE
MARYLAND STATE DEPARTMENT OF EDUCATION
ON BEHALF OF LOCAL SCHOOL SYSTEMS
AUTOMOTIVE TECHNOLOGY

The undersigned agree to uphold all requirements of this agreement, including an annual review with appropriate updates. For just cause, either party can terminate the agreement given ninety days written notice. If the agreement is terminated, all student credits previously awarded will remain unaffected.

For Maryland State Department of Education:

Katherine M. Oliver,
Assistant State Superintendent of Schools
Division of Career Technology and
Adult Learning
Maryland State Department of Education

8/27/09
Date

For Pennsylvania College of Technology:

Davie Jane Gilmour, Ph.D.
President

8/5/2009
Date

Colin W. Williamson, Dean
School of Transportation Technology

8/6/2009
Date

APPROVED FOR FORM AND LEGAL SUFFICIENCY

Assistant Attorney General
Maryland State Department of Education
Date

Articulation Agreement Signature Page Between
Maryland State Department of Education on
Behalf of Local School Systems and
Penn College

MSDE Transportation Technology Program	
Course Title	Credits
Suspension and Steering	1
Brakes	1

Penn College Program Title		
Course No.	Course Title	Credit Awarded
AMT-113	Steering Suspension	3
AMT-112	Brake Systems	3

or

MSDE Transportation Technology Program	
Course Title	Credits
Electrical/Electronic Systems	2
Engine Performance	1

Penn College Program Title		
Course No.	Course Title	Credit Awarded
AMT-109	Automotive Electrical Fundamentals	3
AMT-126	Engine Electrical Systems	4
AMT-121	Automotive Fuel and Emission Control Systems	2

8/11/09

Katharine M. Oliver
Assistant State Superintendent of Schools
Division of Career Technology and Adult Learning
Maryland State Department of Education

Davie Jane Gilmour, Ph.D.
President
Pennsylvania College of Technology

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Appendix – J

MOU
MD State Dept. of Education &
Maryland New Car
& Truck Dealers

MEMORANDUM OF UNDERSTANDING

Between the Maryland State Department of Education and the Maryland New Car and Truck Dealers Association

PURPOSE:

This agreement is to establish a framework for a partnership between the Maryland New Car and Truck Dealers Association (MNCTDA) and the Maryland State Department of Education (MSDE) to promote and foster high quality automotive education programs, specifically those of the Automotive Youth Educational Systems (AYES) that combine school-based and work-based learning in support of increased student success.

BACKGROUND:

The MNCTDA, in partnership with MSDE, the AYES, participating manufacturers, participating dealers and selected high schools will work with Career and Technology Education (CTE) programs to encourage young people to consider satisfying careers in automotive service and prepare students for entry-level career positions and advanced studies in automotive technology. In conjunction with this initiative, this partnership will design a range of training opportunities and support services to encourage young women to enroll and complete high school automotive CTE programs.

The MNCTDA works through its dealerships, school partners and AYES to enhance the public image of dealerships and dealership careers, build local partnerships with high quality schools/CTE programs, and foster positive work environments in dealerships. The MNCTDA works with its partners to reach out to young people and their parents to make them aware of the challenges and rewards of pursuing a retail automotive career. The MNCTDA and AYES are helping in this effort by providing "how to" ideas and support materials for developing and enhancing partnerships with dealerships, educators and students, offering internships, "job shadowing" opportunities, and taking part in "career days" and "career fairs" at local schools.

MSDE provides leadership to Maryland's local school systems and community colleges in the development and implementation of effective Career Cluster CTE programs. The Career Cluster approach to program development encourages public/private partnerships whose aim is to link education reform, workforce preparation, and economic development to ensure high school graduates are prepared for success in their next steps in postsecondary education/training and the workplace. The Career Cluster approach to program development gives all students a head start on a better future through course work linked to their interests in challenging, purposeful programs of study.

AREAS OF AGREEMENT:

MNCTDA agrees to:

- Support MSDE initiatives to encourage all Maryland automotive CTE Programs to become certified by the National Automotive Technicians Education Foundation and the National Institute for Automotive Service Excellence (NATEF/ASE) certified;
- Provide the new AYES programs developed in Maryland with the same level of technical assistance, quality assurance, and curriculum development that it provides to all current AYES programs;
- Work with the MSDE and local program advisory committees to ensure AYES programs are an integral component of Maryland's transportation cluster program development initiative, Tech Prep, and under-represented students in non-traditional programs;
- Support the development of education/industry partnerships for current and future AYES programs;
- Develop recruiting and retention strategies to increase the number of young women who enroll in and complete automotive CTE programs; and
- Work with MSDE to support NATEF/ASE certified automotive technology programs and student assessments in all automotive technology programs.

MSDE agrees to:

- Identify its CTE Transportation Technologies Cluster Team as the point of contact to facilitate all elements of this agreement;
- Encourage local school systems to explore the applicability of the AYES programs for current and proposed automotive programs;
- Disseminate information to local school systems regarding AYES programs;
- Assist local school systems in obtaining resources to support AYES programs;
- Provide AYES a statewide forum for sharing information on its programs; and
- Communicate best practices to all partners in the State and local government.

MNCTDA and MSDE will:

- Convene an annual meeting of key persons represented by this agreement to assess the partnership and plan for continued joint efforts; and
- Assist local school systems in determining methods to establish and sustain AYES programs.

This Memorandum of Understanding is executed on February 25, 2004 by the Maryland New Car and Truck Dealers Association and the Maryland State Department of Education as partners in developing and promoting local partnerships between schools and employers to facilitate student achievement through high quality school and workplace learning experiences.

J. Peter Kitzmiller — Date
President
Maryland New Car & Truck Dealers Association

Edward L. Root — Date
President
Maryland State Board of Education

Nancy S. Grasmick — Date
State Superintendent of Schools
Maryland State Department of Education

Appendix – K

Maryland Professional Development Standards/Guide

MARYLAND TEACHER PROFESSIONAL DEVELOPMENT PLANNING GUIDE

Updated November 2008

MARYLAND STATE DEPARTMENT OF EDUCATION

Achievement Matters Most

www.marylandpublicschools.org

Introduction

The *Maryland Teacher Professional Development Planning Guide* is a resource for planning professional development that:

- Meets teachers' professional learning needs and improves student learning
- Addresses priorities in district master plans and school improvement plans
- Addresses Maryland's *Voluntary State Curriculum* (VSC)
- Meets the *Maryland Teacher Professional Development Standards*

The complete guide, as well as various other resources described in the guide, is available at www.marylandpublicschools.org. Click on the "Teacher Professional Development" button on the right-hand side of the homepage.

The guide describes the elements of an effective plan for teacher professional development and presents a six-step planning process. Planning teams can use the *Maryland Teacher Professional Development Planning Form* to prepare their plans. (The planning form is included in Appendix 1 and an electronic version is available at www.marylandpublicschools.org.) As plans are completed, planning teams should use the *Teacher Professional Development Planning Checklist* to make sure that their plans are complete. (The planning checklist is included as Appendix 2.)

Planning teams can begin by reviewing the planning guide and then completing the planning form. Alternatively, experienced planning teams and those who are familiar with the *Maryland Teacher Professional Development Standards* may decide to work directly on the planning form, using the planning guide as a reference.

Professional development coordinators, principals, curriculum supervisors, federal program managers, and others responsible for supporting professional development planning efforts should consult *Introducing the Maryland Teacher Professional Development Planning Guide: Tips and Talking Points (Updated in November 2008).* This handbook provides suggestions for introducing the planning guide to potential users.

Planning Guidance

Six Elements of a Plan for Teacher Professional Development

The purpose of all teacher professional development is to help teachers develop and apply the knowledge and skills necessary to help students learn. It follows that planning high-quality professional development begins by examining student learning needs and identifying the teacher knowledge and skills required to address those learning needs. The intended outcomes of teacher professional development are defined in terms of improved professional practice, but the long-term goals should always focus on improved student outcomes.

Planning Tip: Consider developing a logic model. A logic model for professional development specifies the outcomes for teachers and other participants as well as student outcomes. A logic model also specifies the kinds of learning activities necessary to ensure that teachers and other participants achieve the intended outcomes, and it helps clarify assumptions about the sequence of the professional learning activities. Finally, a logic model helps to inform decisions about the time and other resources necessary to ensure that the activities result in the intended outcomes.

Appendix 3 of this guide includes a generic professional development logic model that planners can use to develop a model of the professional development that they are planning. In addition, the W.K. Kellogg Foundation has prepared the *Logic Model Development Guide*, which is an excellent resource for program planning and evaluation. The Kellogg guide is available at no charge on the foundation's website: http://www.wkkf.org.

A good plan should be internally consistent and should:

- Begin with a clear, data-based statement of student *and* teacher learning needs
- Specify which teachers are most likely to benefit from participating in the professional development
- Specify the intended professional learning outcomes and related indicators that (1) explicitly address the need for the activity and (2) are observable and measurable
- Specify the professional learning activities and follow-up and explain clearly how they will help participants achieve the intended outcomes
- Specify how the professional development will be evaluated to determine (1) whether the activity took place as planned, (2) teacher perceptions of the relevant and usefulness of the activity and (3) whether the activity achieved the intended outcomes
- Specify the resources necessary to support the professional learning activities, follow-up, and evaluation included in the plan

Maryland Teacher Professional Development Standards

Introduction

Research, insights from practice, and common sense converge around the understanding that skilled teachers have a significant impact on student learning. Helping teachers develop the knowledge and skills they need begins with rigorous teacher training programs. Subsequently, effective professional development helps teachers continue enhancing their knowledge and skills throughout their careers.

Maryland's Teacher Professional Development Standards are intended to guide efforts to improve professional development for all teachers. These standards call on teachers, principals and other school leaders, district leaders and staff, the Maryland State Department of Education, institutions of higher education, and cultural institutions and organizations[1] across the state to work together to ensure that professional development is of the highest quality and readily accessible to all teachers. These standards also acknowledge that teacher professional development encompasses a wide variety of learning activities. The list includes, but is certainly not limited to, teacher study groups; coaching and mentoring relationships; teacher networks; participation on school improvement teams and committees that develop curricula and assessments; workshops; and college and university courses.

When fully implemented, these standards and the related indicators can help improve the quality of professional development by:

- Providing a clear vision of high-quality professional development that recognizes local needs, priorities, and resources;
- Guiding planning, designing, implementing, and evaluating high-quality professional development, including both professional development programs and an entire professional development agenda;
- Supporting alignment of professional development with goals for improving student learning and state, district, and school policies and priorities;
- Informing allocation of resources for professional development; and
- Defining accountability for ensuring that professional development is of the highest quality and readily accessible to all teachers.

Context for High-Quality Teacher Professional Development in Maryland

The Maryland Teacher Professional Development Standards are derived from the National Staff Development Council's (NSDC) Standards for Staff Development.[2] Like the NSDC standards, the Maryland Teacher Professional Development Standards rest on several fundamental assumptions about contextual factors that are critical to ensuring that professional development is effective.

- **Professional development is most effective when it takes place in vibrant professional learning communities.** These learning communities take various forms, but they all value ongoing learning by teachers and students. They encourage individual and collaborative experimentation, practice, and reflection. They foster collegiality and problem solving, and they emphasize continuous improvement in classrooms and schools.
- **Professional development is most effective when there are strong leaders.** These leaders recognize the value of high-quality professional development, encourage and facilitate teacher participation, and communicate about the benefits of professional development to key stakeholders (e.g., parents, school boards, county commissioners). Ideally, leadership for professional development is distributed among teachers, principals and other administrators, district staff, MSDE, institutions of higher education, and various cultural organizations. At the same time, no single formula defines the appropriate distribution of leadership.
- **Professional development is most effective when there are adequate resources.** Resources include money, people, and time. Just as leadership should be distributed, resources (people and money) can come from a variety of sources, with no single organization or stakeholder group expected to shoulder the whole burden. Careful analysis of how time is used in school schedules, district calendars, negotiated agreements, and other policy documents can lead to more time for teacher learning. All of these resources will be used most effectively when allocations are coordinated and when there is careful assessment of the returns on investments in professional development. As with leadership, no single formula defines the adequacy of resources. Instead, resources are adequate when they ensure that all teachers can study, practice, and implement the knowledge and skills necessary to be effective with their students.

The Maryland Teacher Professional Development Standards rest on a fourth assumption which is consistent with the NSDC definition of effective professional development.

- **Professional development is most effective when there is consensus around clear expectations for what teachers should know and be able to do to help all students learn.** These expectations are shared among all stakeholders and district and school leaders work to build understanding and consensus around them. The expectations are reflected in negotiated agreements, job descriptions and assignments, performance appraisal systems, systems of rewards and incentives for teachers, and in the design and content of teacher professional development.

In the end, the formula for effectiveness is simple. When these four elements are in place, professional development can be highly effective. When they are missing or underdeveloped, professional development will not be effective and will have limited impact on teaching and learning.

Standards and Indicators Define High-Quality Professional Development

Content Standards

I. Content knowledge and quality teaching - Effective professional development deepens all teachers' content knowledge and the knowledge and skills necessary to provide effective instruction and assess student progress.

Indicators

1a. Professional development includes learning experiences and resources to ensure that teachers understand how the subject(s) they teach addresses the Maryland content standards and the relationships between the subjects they teach and other subjects in the curriculum.

1b. Professional development provides opportunities for teachers to examine, observe, practice, and receive feedback on their use of research-based instructional strategies to help all of their students master Maryland content standards.

1c. Professional development provides ongoing opportunities for teachers to examine a variety of classroom assessments, practice using them in their classrooms, and analyze the results to (1) understand and report on student mastery of Maryland content standards, (2) identify gaps in student learning, and (3) adjust instruction.

II. Research-based - Effective professional development ensures that all teachers have the knowledge, skills, and dispositions to apply research to decision making.

Indicators

2a. Professional development includes ongoing opportunities for teachers to read and reflect on current research on topics of interest to them and consistent with state and local school improvement priorities.

2b. Professional development may involve two-way interactions with researchers to discuss research design, data collection, analysis, and reporting to assist teachers in understanding what works, particularly in areas where there may be competing perspectives and conclusions.

2c. Professional development involves individual teachers or teams of teachers, often in collaboration with researchers, in action research to test their own hypotheses and to report the

[1] Cultural institutions include libraries, museums, and similar kinds of organizations.

[2] The NSDC standards were developed in 1995 and revised in 2001. The Maryland Teacher Professional Development Standards are derived from the 2001 version of the NSDC standards.

Maryland Teacher Professional Development Standards

results about professional development program impact or the effectiveness of particular instructional strategies and programs for teachers and students.

III. **Collaboration** - Effective professional development ensures that teachers have the knowledge, skills, and dispositions to collaborate with others to improve instruction.

Indicators:

3a. Professional development provides ongoing opportunities for teachers to practice working with colleagues, including other teachers, principals, counselors, social workers, and others, and emphasizes that collaboration is a means and not an end in addressing issues related to school improvement and improved student learning.

3b. Professional development emphasizes constructive management of conflict and fosters understanding that disagreement and conflict are potentially beneficial elements of professional discourse.

3c. Professional development relies on communication technologies to broaden the scope of collaboration.

IV. **Diverse learning needs** - Effective professional development ensures that all teachers have the knowledge, skills, and dispositions to meet the diverse learning needs of all of their students.

Indicators:

4a. Professional development focuses on developing teachers' understanding of and disposition to acknowledge the diversity of student learning styles and needs.

4b. Professional development provides opportunities for teachers to develop and demonstrate the knowledge and skills necessary to design and implement instructional and assessment strategies that meet diverse student learning needs and help all students master Maryland content standards.

4c. Professional development fosters teachers' respect for all students and guides teachers in setting and maintaining high expectations for all students to demonstrate proficiency on Maryland content standards.

V. **Student learning environments** - Effective professional development ensures that all teachers are able to create safe, secure, and supportive learning environments for all students.

Indicators:

5a. Professional development fosters a safe, inclusive, equitable learning community where teachers, administrators, and students participate in maintaining a climate of caring and respect.

5b. Professional development provides opportunities for teachers to develop and practice student ownership of management routines and practice creative solutions to conflicts.

5c Professional development provides opportunities for teachers to use data on student behavior, such as discipline referrals, suspension information and school climate surveys to analyze and refine practices that promote optimal learning environments

VI. **Family involvement** - Effective professional development ensures that all teachers have the knowledge, skills, and dispositions to involve families and other community members as active partners in their children's education.

Indicators:

6a Professional development provides opportunities for teachers to develop and demonstrate oral and written communication skills to build partnerships with parents and community members and to communicate expectations for student mastery of Maryland content standards and success on approved national, state, and local assessments.

6b. Professional development fosters teachers' understanding and respect for varying cultural backgrounds of students, families, and the community and how the diversity and richness of these cultural backgrounds can serve as foundations for student learning.

6c. Professional development includes opportunities for teachers to master the use of technology to strengthen partnerships with families and the community.

Process Standards

VII. **Data-driven** - Effective teacher professional development relies on rigorous analysis of data.

Indicators:

7a. Individuals who plan professional development have ready access to high-quality student data from various sources that are organized in user-friendly formats.

7b. Individuals who plan professional development have the knowledge and skills necessary to use disaggregated student data (by race, gender, English language learners, special education, and eligibility for free or reduced price meals) for planning, implementation, and evaluation of professional development and instructional programs.

7c. School and district schedules set aside time for teachers and others to examine student data as the starting point for planning professional development.

7d. Individuals who plan professional development carefully analyze a variety of disaggregated student data to identify gaps between student learning and standards for proficiency to inform the choice of the content of professional development.

7e. As appropriate to school and district needs, data analysis focuses on results from approved national, state, and local assessments, student work samples and portfolios, and behavioral indicators, such as attendance and disciplinary referrals.

VIII. **Evaluation** - Rigorous evaluations assess the impact of professional development on teaching and student learning.

Indicators:

8a. Individuals who plan professional development ensure that plans include adequate resources for an objective evaluation and for reporting and disseminating the results.

8b. Individuals who plan professional development (1) identify the kinds of evidence about teaching and student learning that will be collected and used as indicators of the success of professional development, and (2) consistent with progress benchmarks and goals, determine how and when the data will be collected and reported

8c. Evaluation should also assess the impact of professional development on school culture and organization to support school improvement efforts.

8d. Sponsors of professional development communicate the results of evaluations to key stakeholder groups, including teachers, school and district leaders, central office staff, providers, policymakers, and parents, in a timely fashion.

IX. **Design and teacher learning** - Effective professional development content and process reflect best practices in workplace learning and in-depth understanding of how and why adults learn.

Indicators:

9a. Professional development matches learning experiences, including the intensity and duration, with individual teacher needs, current knowledge and skills, and learning goals.

9b. Professional development combines a variety of learning experiences, including, but not limited to, individual study, demonstrations, observation, practice, feedback, and reflection as well as opportunities for collaboration and problem solving among colleagues.

9c. Professional development provides extensive follow-up, including, but not limited to, classroom demonstrations, feedback on mastery of new knowledge, feedback on demonstration of new skills, peer coaching and mentoring, and opportunities for additional study.

9d. Professional development relies on information technologies to provide more extensive and diverse content, and it also relies on communication technologies to expand access and participation and to create virtual professional learning communities.

9e. Professional development recognizes and draws on the knowledge, skills, and dispositions of successful teachers by including them as leaders, facilitators, and resources in professional learning opportunities.

Appendix – L

Top 10 Parents

Top 10 Things

Parents Should Know about Career and Technology Education

CAREER AND TECHNOLOGY EDUCATION

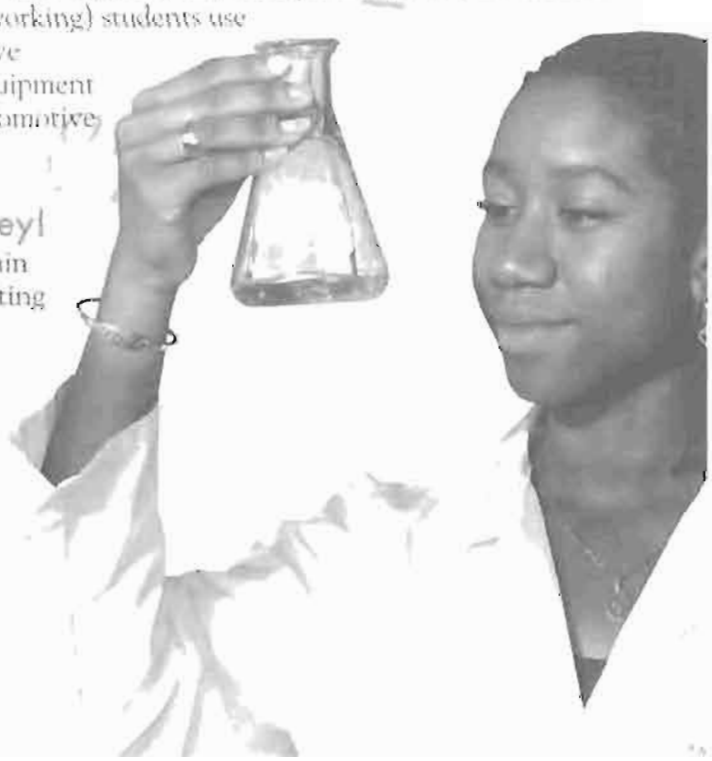
1. **Career and Technology Education (CTE) - it's more than a name change!** Career and Technology Education (formerly vocational education) gives students a head start on college and careers in high-skill, high-wage and high-demand occupations organized in ten different Career Clusters* including programs in Information Technology, Finance, Construction Trades, Homeland Security, Health Professions, Pre-engineering and more.

2. **CTE is for the career and college bound.** In today's workplace, continued education and training are givens. CTE programs include a sequence of 4 or 5 high school courses taken in addition to the academic core classes of math, science, English and social studies. Students completing both the academic requirements and a CTE program have the advantage of graduating from high school prepared for college and the workplace.

3. **CTE students are able to earn college credits and certifications** to give them an extra advantage after earning their diplomas. It's true! Most of the 40 + CTE programs offered around the state provide students with an opportunity to earn college credit**, industry-recognized certifications*** or both. As an added bonus, nearly every CTE program connects to a similar community college program which makes it possible for students to transition from high school to college.

4. **Students apply what they learn in academic classes** – and this applied learning increases retention and understanding! For example in the Pre-engineering program, *Project Lead The Way*, students apply skills learned in higher level math courses to real world engineering projects, under the guidance of professional engineers/mentors.

5. **Instructors are industry professionals teaching with up-to-date equipment and technology.** CTE teachers have worked in their fields as part of their certification. Industry advisory boards help schools design and equip learning labs. For example, Culinary Arts students work in commercial kitchens; Cisco (computer networking) students use state-of-the-art networking software, and Automotive Technician students hone their skills using tools, equipment and curriculum recommended by The National Automotive Technicians Education Foundation (NATEF).



6. **Parents and students can save money!** High school is the only time individuals can obtain education focused on career preparation without writing a tuition check! High school students can earn licenses and credentials, such as a Maryland Cosmetology license or a range of computer software certifications, often at a reduced cost compared to the cost of obtaining certifications*** and licenses outside of high school. CTE students can also save money on college tuition by earning college credit three different ways.** Students completing CTE programs obtain knowledge and skills that can help them achieve better paying jobs while they are attending college.

CAREER AND TECHNOLOGY EDUCATION

7. **Programs are designed for the future.** Maryland industries and businesses partner with local school districts, community colleges and the Maryland State Department of Education to create programs of study that prepare students with the knowledge and skills required for current and future careers in today's global economy.

8. **Internships and work-based learning opportunities provide "real world" work experiences and the prospect of developing a professional network.** CTE programs frequently include a final internship or work-based learning experience which helps students develop a network of co-workers and managers who may also become valuable references.

9. **Leadership and interpersonal skills are expanded!** Students enrolled in CTE programs can join local chapters of national student organizations such as the Health Occupations Students of America (HOSA), or Future Business Leaders of America (FBLA). Participating in Career and Technical Student Organizations like Skills USA, DECA, FFA and other state and national career competitions builds confidence as students demonstrate their skills and knowledge.

10. **To enroll your teen or to learn more about CTE in your community, contact your local school system CTE Director or guidance department. To learn more about CTE at the state level visit Career and Technology Education under Divisions at www.marylandpublicschools.org/MSDE/divisions/careertech.**

* A grouping of occupations according to common knowledge and skills for the purpose of organizing educational programs and curricula.

** Articulation is the process by which academic or technical credits earned through high school programs may be acceptable in transfer by various community colleges and some four-year institutions. Transcripted credit can be earned when an actual college course, using college text books and materials, is taught to high school students. Credits earned appear on a college transcript. Dual enrollment is a program that allows high school students (usually juniors and seniors) to enroll in college courses for credit prior to high school graduation. College credits earned through dual enrollment can be simultaneously applied towards high school and college graduation.

*** Like an "MD" in the medical profession or a "CPA" in the accounting profession, an industry certification documents student achievement of industry standards based on an assessment of what students know and are able to do in a career pathway. Some certifications/licenses available to high school students are: Cosmetology, CISCO (computer networking), NATEF (automotive technician), just to name a few.

Maryland State Department of Education
Division of Career and College Readiness
200 West Baltimore Street
Baltimore, Maryland 21201-2595
Telephone: 410.767.0195 Fax: 410.333.2099
www.marylandpublicschools.org/MSDE/divisions/careertech

November 2007

Appendix – M

Letters of Commitment

August 30, 2010

Dr. Nancy S. Grasmick
State Superintendent of Schools
Maryland State Department of Education
200 W. Baltimore St.
Baltimore, Maryland 21201

Dear Dr. Grasmick:

I am writing to express the commitment of Baltimore City Public Schools (City Schools) to participate in the Maryland Career and Technology Education (CTE) Promoting Rigorous CTE Programs of Study (POS) grant initiative. I understand that this grant will support full alignment of the Maryland Automotive Technology Program of Study with the US Department of Education's "Programs of Study Design Framework," establish a postsecondary partnership to provide professional development for teachers, and enhance students' transition from high school programs to further education and careers.

As a Promoting Rigorous CTE POS Grant participant, City Schools agrees to implement the upgraded Maryland Automotive Technology Program of Study no later than the beginning of year two of the project and to maintain constancy in its implementation. In addition, City Schools will participate in ongoing technical assistance to meet all implementation goals of this project, and instructors and guidance counselors will participate in MSDE-sponsored professional development. We will also ensure that our students will have the opportunity to credential their learning through the National Automotive Student Skills Standards Assessment offered by Automotive Service Excellence (ASE), and we will promote ways for students to obtain early college credit.

Thank you for this opportunity to continuously improve City Schools' Automotive Technology CTE Programs as we partner to better prepare Baltimore City's students for transition to college and careers. City Schools is very pleased to be included in this effort.

Sincerely,

Andrés A. Alonso, Ed.D.
Chief Executive Officer

BALTIMORE COUNTY PUBLIC SCHOOLS
Joe A. Hairston, Superintendent 6901 Charles Street Towson, MD • 21204-3711

August 30, 2010

Dr. Nancy S. Grasmick
State Superintendent of Schools
Maryland Department of Education
200 West Baltimore Street
Baltimore, Maryland 21201

Dear Dr. Grasmick:

Baltimore County Public Schools (BCPS) is committed to participating in the Maryland Career and Technology Education (CTE) Promoting Rigorous CTE Programs of Study (POS) grant initiative. I understand that this grant will support full alignment of the Maryland Automotive Technology Program of Study with the US Department of Education's "Programs of Study Design Framework;" establish a postsecondary partnership to provide professional development for teachers; and enhance students' transition from high school programs to further education and work.

As a Promoting Rigorous CTE POS Grant participant, BCPS agrees to implement the upgraded Maryland Automotive Technology Program of Study no later than the beginning of year two of the project and maintain constancy in the implementation. BCPS will participate in ongoing technical assistance to meet all implementation goals of this project. Instructors and guidance counselors will participate in MSDE-sponsored professional development. BCPS will also ensure opportunities for students to credential their learning through the National Automotive Student Skills Standards Assessment offered by Automotive Service Excellence (ASE) and promote ways for students to obtain early college credit.

Thank you for this opportunity to continuously improve BCPS's Automotive Technology CTE Programs as we partner to better prepare BCPS students for transition to college and careers. BCPS is very pleased to be included in this effort.

Sincerely,

John R. Quinn, Ed.D.
Acting Associate Superintendent
Curriculum and Instruction

c Mrs. Leila G. Walker, Coordinator, Career and Technology Education

Queen Anne's County Public Schools
Educate Encourage Enable

202 Chesterfield Avenue ~ Centreville, MD 21617 ~ Tele: 410-758-2403 ~ Fax: 410-758-8200 ~ www.qacps.k12.md.us

August 30, 2010

Dr. Nancy S. Grasmick
State Superintendent of Schools
Maryland State Department of Education
200 W. Baltimore St.
Baltimore, Maryland 21201

Dear Dr. Grasmick,

Queen Anne's County Public Schools is pleased to have the opportunity to participate in the Maryland Career and Technology Education (CTE) Promoting Rigorous CTE Programs of Study (POS) grant initiative. We are committed to improving the quality of our CTE programs and believe this grant initiative will aid us in moving toward this goal. I understand that this grant will support full alignment of the Maryland Automotive Technology Program of Study with the US Department of Education's "Programs of Study Design Framework;" establish a postsecondary partnership to provide professional development for teachers; and enhance students' transition from high school programs to further education and work.

As a Promoting Rigorous CTE POS Grant participant, Queen Anne's County Public Schools agrees to implement the upgraded Maryland Automotive Technology Program of Study no later than the beginning of year two of the project and maintain constancy in the implementation. We will participate in ongoing technical assistance to meet all implementation goals of this project. Instructors and guidance counselors will participate in MSDE-sponsored professional development. We will also ensure opportunities for students to credential their learning through the National Automotive Student Skills Standards Assessment offered by Automotive Service Excellence (ASE) and promote ways for students to obtain early college credit.

Thank you for this opportunity to continuously improve Queen Anne's County Public School's Automotive Technology CTE Programs as we partner to better prepare Queen Anne's students for transition to college and careers. We are very pleased to be included in this effort.

Very truly yours,

Carol Williamson

Carol A. Williamson, Ed.D.
Superintendent of Schools
Queen Anne's County Public Schools

Appendix – N

Letters of Support

August 31, 2010

Dr. Nancy S. Grasmick
State Superintendent of Schools
Maryland State Department of Education
200 W. Baltimore St.
Baltimore, Maryland 21201

Dear Dr. Grasmick,

The Community College of Baltimore County (CCBC) is committed to participating in the Maryland Career and Technology Education (CTE) Promoting Rigorous CTE Programs of Study (POS) grant initiative. I understand that this grant will support full alignment of the Maryland Automotive Technology Program of Study with the US Department of Education's "Programs of Study Design Framework;" establish a postsecondary partnership to provide professional development and technical assistance for teachers; and enhance students' transition from high school programs to further education and work.

As a Promoting Rigorous CTE POS Grant partner, CCBC agrees to work with the Maryland State Department of Education to develop the scope, sequence and curriculum for the Maryland Automotive Technology Program of Study. In addition, the college will work with the three selected local school systems--one urban, one rural and one suburban--to provide technical assistance to meet all implementation goals of this project. The college will be an active participant in working with the Local Education Agencies (LEAs) and instructors to review the automotive technology program data support, develop data driven strategies for program improvement, and increase the use of technology, including online resources, through professional development. As a partner, we look forward to increasing the number of students accessing articulated credit opportunities at CCBC's Automotive Technology programs.

Thank you for this opportunity to participate in continuously improving Maryland's Automotive Technology CTE Programs and better prepare students for transition to college and careers. We are very pleased to be included in this effort.

Sincerely,

Sandra L. Kurtinitis, Ph.D.
President

:das

Maryland Automobile Dealers Association

August 30, 2010

Dr. Nancy S. Grasmick
State Superintendent of Schools
Maryland State Department of Education
200 W. Baltimore St.
Baltimore, Maryland 21201

Dear Dr. Grasmick,

The purpose of this letter is to offer industry support for the Maryland Career and Technology Education (CTE) Promoting Rigorous CTE Programs of Study (POS) grant initiative. I understand that this grant will enable full alignment of the Maryland Automotive Technology Program of Study with the US Department of Education's "Programs of Study Design Framework:" establish a postsecondary partnership to provide professional development and technical assistance for teachers; and enhance students' transition from high school programs to further education and work.

National Automotive Technicians Education Foundation (NATEF) has a long relationship with the Career and Technology Education Leadership and staff in Maryland. Maryland Automotive Dealers Association is a member of the Statewide Advisory Committee and view Maryland as a leader in continuous improvement and upgrades to the state Automotive Technology Program of Study. According to the Maryland Occupational Projections, the need for automotive service technicians is poised to grow at a rate of 20% over the next several years. This growth will require a skilled workforce to meet these workforce demands. The Promoting Rigorous CTE POS Grant will position Maryland to develop a statewide scope and sequence and curriculum for the Maryland Automotive Technology Program of Study, as well as provide Maryland instructors with appropriate professional development for systemic implementation of the Maryland Automotive Technology Program of Study.

Accomplishing these goals will position Maryland Automotive Technology students to be prepared to sit for the National Automotive Student Skills Standards Assessment NA3SA end of course tests, access articulated and/or dual credit opportunities through statewide articulation agreements and be well prepared for the workforce. I am pleased to provide this letter of support for Maryland to continuously improve the Automotive Technology Program of Study and better prepare students for transition to college and careers.

Sincerely,

J. Peter Kitzmiller
President
Maryland Automobile Dealers Association

7 State Circle • Suite 301 (410)269-1710 (301)261-1717 (800) 526-7423 (Fax) (410) 269-5924
Annapolis, MD 21401-1904 www.MDAUTO.org E-Mail mdauto@mdauto.org

NATIONAL AUTOMOTIVE TECHNICIANS EDUCATION FOUNDATION, INC.

August 31, 2010

Dr. Nancy S. Grasmick
State Superintendent of Schools
Maryland State Department of Education
200 W. Baltimore St.
Baltimore, Maryland 21201

Dear Dr. Grasmick,

The purpose of this letter is to offer the support of the National Automotive Technicians Education Foundation (NATEF) for the Maryland Career and Technology Education (CTE) Promoting Rigorous CTE Programs of Study (POS) grant initiative. This grant will enable full alignment of the Maryland Automotive Technology Program of Study with the US Department of Education's "Programs of Study Design Framework;" establish a postsecondary partnership to provide professional development and technical assistance for teachers; and enhance students' transition from high school programs to further education and work. We feel strongly that these benefits represent a significant value to both students and their potential employers.

NATEF has a long relationship with the Career and Technology Education Leadership and staff in Maryland, both leaders in continuous improvement and upgrades to the state Automotive Technology Program of Study. According to the Maryland Occupational Projections, the need for automotive service technicians is poised to grow at a rate of 20% over the next several years, requiring a skilled workforce to meet these workforce demands. The Promoting Rigorous CTE POS Grant will position Maryland to develop a statewide scope and sequence and curriculum for the Maryland Automotive Technology Program of Study, as well as provide Maryland instructors with appropriate professional development for systemic implementation of the Maryland Automotive Technology Program of Study.

Accomplishing these goals will position Maryland Automotive Technology students to be prepared to sit for the National Automotive Student Skills Standards Assessment (NA3SA) end of course tests, access articulated and/or dual credit opportunities through statewide articulation agreements and be well prepared for the workforce. I am pleased to provide this letter of support for Maryland to continuously improve the Automotive Technology Program of Study and better prepare students for transition to college and careers.

Sincerely,

Timothy Zilke
CEO

101 BLUE SEAL DRIVE, S.E., SUITE 101, LEESBURG, VA 20175
PHONE: 703-669-6650 FAX: 703-669-6125
www.natef.org

TOYOTA

Central Atlantic Toyota
6710 Baymeadow Drive
Glen Burnie, MD 21060
410-760-1500

August 31, 2010

Dr. Nancy S. Grasmick
State Superintendent of Schools
Maryland State Department of Education
200 W. Baltimore St.
Baltimore, Maryland 21201

Dear Dr. Grasmick,

The purpose of this letter is to offer industry support for the Maryland Career and Technology Education (CTE) Promoting Rigorous CTE Programs of Study (POS) grant initiative. I understand that this grant will enable full alignment of the Maryland Automotive Technology Program of Study with the US Department of Education's "Programs of Study Design Framework;" establish a postsecondary partnership to provide professional development and technical assistance for teachers; and enhance students' transition from high school programs to further education and work.

Toyota has a long relationship with Career and Technology Education Leadership and staff in Maryland. Over the past few years Toyota has provided professional development, ensuring Maryland's Automotive Technology instructors keep current with industry standards and technology. In addition, I am a member of the Transportation Technology Statewide Advisory Committee and view Maryland as a leader in continuous improvement and upgrades to the state Automotive Technology Program of Study. According to the Maryland Occupational Projections, the need for automotive service technicians is poised to grow at a rate of 20% over the next several years. This growth will require a skilled workforce to meet these workforce demands. The Promoting Rigorous CTE POS Grant will position Maryland to develop a statewide scope and sequence and curriculum for the Maryland Automotive Technology Program of Study, as well as provide Maryland instructors with appropriate professional development for systemic implementation of the Maryland Automotive Technology Program of Study.

Accomplishing these goals will position Maryland Automotive Technology students to be prepared to sit for the National Automotive Student Skills Standards Assessment NA3SA end of course tests, access articulated and/or dual credit opportunities through statewide articulation agreements and be well prepared for the workforce. I am pleased to provide this letter of support for Maryland to continuously improve the Automotive Technology Program of Study and better prepare students for transition to college and careers.

Sincerely,

R. R

Rafael Reyes
Technical Services & Training Manager

Appendix – O

Resumes of
Key Personnel

JEANNE-MARIE S. HOLLY
Program Manager, Career and Technology Education Systems
Maryland State Department of Education/Division of Career and College Readiness
200 West Baltimore Street Baltimore, MD 21201
Phone: 410-767-0182; Fax: 410-333-2084; E-mail: jmholly@msde.state.md.us

Biographical Sketch

Jeanne-Marie S. Holly is the Program Manager for the Career and Technology Education Systems Branch in the Division of Career and College Readiness with the Maryland State Department of Education (MSDE). She is responsible for providing leadership to regional coordinators who provide technical assistance for the development, upgrade and continuous improvement of career and technology education (CTE) programs throughout Maryland's 24 local school systems and 16 community colleges. She leads the Human Resources Services Career Cluster where several state programs of study have been developed. These include: Fire and Rescue Emergency Technician, Teacher Academy of Maryland, and Homeland Security and Emergency Preparedness. In addition, Jeanne-Marie provides direct oversight for all financial matters for CTE including state, federal, and private funds; regulatory and compliance issues; and reporting requirements. She also serves as the Division's Legislative Liaison to MSDE for state and federal legislation regarding CTE and Juvenile Services Education.

Prior to her current position, Jeanne-Marie held other leadership positions within MSDE including Section Chief, Instructional Branch and State Specialist for Family and Consumer Sciences. Before joining MSDE, Jeanne-Marie was a tenured faculty member with the University of Maryland's Cooperative Extension Service. She has also served as an adjunct faculty member for a private college, a writing consultant for Adult Education, author of two consumer series for Maryland Public Television and began her career as a Family and Consumer Sciences teacher. She has over 34 years of experience in the education field.

Jeanne-Marie received her Bachelor's and Master's degrees from the University of Maryland. She has held both elected and appointed positions of leadership in a variety of professional organizations, including serving in national offices. She has been recognized with various awards at the local, state and national levels for her leadership and contributions to the education field, most recently with the Distinguished Service Award from the National Association for Career and Technical Education Information where she served as President in 2008.

Kathy McNerney
Education Program Supervisor
Career and Technology Education Systems
Maryland State Department of Education/Division of Career and College Readiness
200 West Baltimore Street
Baltimore, MD 21201
Phone: 410-767-0185; Fax: 410-333-2084
E-mail: kmcnerney@msde.state.md.us

Biographical Sketch

Kathy McNerney is the Education Program Supervisor for the Career and Technology Education Systems Branch in the Division of Career and College Readiness with the Maryland State Department of Education (MSDE). She is responsible for the supervision and management of three regional coordinators who provide technical assistance for the development, upgrade and continuous improvement of career and technology education (CTE) programs throughout Maryland's 24 local school systems and 16 community colleges. She leads two MSDE Career Cluster Teams: Environmental, Agriculture and Natural Resources (EANR) and Transportation Technologies (TT). In 2006, Kathy provided leadership in the development and adoption of the Maryland Certified Professional Horticulturist (CPH) Exam/Student Certification in collaboration with EANR advisory members, and in 2008-09 she spearheaded Maryland's piloting of the national Curriculum for Agriculture Science Education (CASE) POS. Most recently she acted as Project Director for MSDE's Web-based CTE Local Plan for Program Improvement (Perkins Application). OVAE cited the electronic Perkins Plan application as a best practice during their 2010 Federal Monitoring Visit of Maryland.

Prior to joining the Maryland State Department of Education in 2001 as an education specialist, Kathy was the Manager of Program Development and Marketing at the Georgian Bay Center in Ontario, Canada, a teacher of technology, business education and cooperative education supervisor. She also has a business background and served as a buyer and Director of Imports for various retail companies in the northeast. Her background includes a B.A. in Distributive Education from Montclair State University with a minor in Business Education.

Michael Beck
CTE Program Analyst
Maryland State Department of Education/Division of Career and College Readiness
200 West Baltimore Street, Baltimore, MD 21201
Phone: (410) 767-0180; Fax (410) 333-2084; E-mail; mbeck@msde.state.md.us

Biographical Sketch

Michael Beck is a Career Technology Education (CTE) Program Analyst for the Student and Assessment Services Branch of the Division of Career and College Readiness of the Maryland State Department of Education (MSDE). He provides technical assistance to CTE program administrators on issues of CTE Program performance measurement and analysis to ensure increased school and student performance as measured by Maryland's statewide assessment programs. He conducts data collection, analysis and reporting activities to support secondary and postsecondary CTE performance improvement initiatives. In addition, he has served on the Transportation Technology Career Cluster Team since 2002, working with the State Program Advisory Committee and industry and postsecondary partners on the development of all of Maryland's Transportation Technology CTE Programs of Study (POS).

Prior to his current position, Mike was a member of the staff of the Maryland Higher Education Commission (MHEC) for 18 years, working as a Senior Education Analyst. Part of his responsibilities at MHEC included collaboration on policy and regulatory initiatives relative to career/workforce education. In addition, he was responsible for the review, approval and regulatory oversight of Private Career Schools, including schools providing education/training in Automotive Technology.

Nancy T. Hauswald
Education Specialist/ Regional Coordinator
Career and Technology Education Systems
Maryland State Department of Education/Division of Career and College Readiness
200 West Baltimore Street
Baltimore, MD 21201
Phone: 410-767-0175; Fax: 410-333-2084;
E-mail: nhauswald@msde.state.md.us

Biographical Sketch

Nancy Hauswald is the Education Specialist/ Regional Coordinator for the Career and Technology Education Systems Branch in the Division of Career and College Readiness with the Maryland State Department of Education (MSDE). She is responsible for providing leadership and technical assistance for the development, upgrade and continuous improvement of career and technology education (CTE) programs for 12 Maryland local school systems and six community colleges. She serves on the Transportation Technologies Career Cluster Team where several state programs of study have been developed including: Automotive Technician, Autobody/Collision Repair, and Medium-Heavy Truck. Nancy works directly with Transportation Technologies Program Advisory Members and was a member of the Anne Arundel Community College's Transportation Logistics Program committee.

Before joining MSDE, Nancy has been a high school work-based learning coordinator, a Social Studies teacher and spent 20 years working in Educational Services/ Newspaper In Education Manager at The Baltimore Sun.

Nancy received her Bachelor's degrees from Frostburg State College, now Frostburg State University and her Masters from Johns Hopkins University.

Katharine M. Oliver

Assistant State Superintendent
Career and College Readiness
Maryland State Department of Education

Mrs. Oliver is the Assistant State Superintendent for Career and College Readiness. She leads a division of the Maryland State Department of Education www.marylandpublicschools.org committed to accelerating student achievement. The division administers a full range of academic and career and technology instructional programs and support services for youth in Department of Juvenile Services facilities and leads the continuous improvement of Maryland's statewide system of Career and Technology Education.

Mrs. Oliver was appointed to her current position in 1989 and is the nation's most senior State Director of Career and Technology Education. Until July of 2009, her division also had responsibility for Maryland's systems of Adult and Correctional Education. Action by the General Assembly moved those programs to the Department of Labor Licensing and Regulation.

Earlier in her career, she was a member of MSDE's Division of Rehabilitation Services Executive Team and also worked with Maryland's Department of Labor, Licensing, and Regulation in workforce development.

She is a graduate of the College of Notre Dame of Maryland and received a Master of Science Degree in Administration and Management from Hood College in Frederick, Maryland.

Mrs. Oliver serves on a variety of local, state, and national advisory boards related to education and workforce development. She is a past President of the National Association of State Directors of Career Technical Education Consortium and is the current chair of the Southern Regional Education Board's (SREB) High Schools That Work Board. She also serves on the:

- Maryland Governor's P-20 Council,
- Maryland's Apprenticeship and Training Council.
- Multinational Development of Women in Technology Board of Trustees,
- Cisco Academy National Advisory Committee,
- National Automotive Technician Education Foundation Board of Trustees, and
- Project Lead the Way National Advisory Board.

Recently, Mrs. Oliver was honored by *The Daily Record* as one of Maryland's Top 100 Women.

Budget Narrative

BUDGET NARRATIVE

Attachment 1:
Title: **Budget Narrative & Justification** Pages: **9** Uploaded File: **Budget Narrative & Justification.pdf**

Budget Narrative

Maryland State Department of Education - Promoting Rigorous Career and Technical Education Programs

Budget Categories	Year 1	Year 2	Year 3	Year 4	Total
Personnel					
	$0	$0	$0	$0	**$0**
Total Personnel	**$0**	**$0**	**$0**	**$0**	**$0**
Fringe Benefits					
	$0	$0	$0	$0	**$0**
Total Fringe	**$0**	**$0**	**$0**	**$0**	**$0**
Travel					
AT-POS instructors to PD	$500	$500	$500	$500	**$2,000**
MSDE travel to OVAE required meetings	$500	$500	$500	$500	**$2,000**
Total Travel	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$4,000**
Equipment					
	$0	$0	$0	$0	**$0**
Total Equipment	**$0**	**$0**	**$0**	**$0**	**$0**
Supplies					
Laptop for Transition Specialist	$1,500	$0	$0	$0	**$1,500**
Office supplies/paper products	$1,500	$1,500	$1,500	$1,500	**$6,000**
Total Supplies	**$3,000**	**$1,500**	**$1,500**	**$1,500**	**$7,500**
Contractual					
Transition specialist (Part time)	$35,000	$35,000	$35,000	$35,000	**$140,000**
Total Contractual	**$35,000**	**$35,000**	**$35,000**	**$35,000**	**$140,000**
Other					
Grants to PS Partner Common Course Syllabi Development					
Brakes	$25,000	$0	$0	$0	**$25,000**
Steering & Suspension	$0	$25,000	$0	$0	**$25,000**
Electrical/Electronics, Engine Performance	$0	$0	$50,000	$0	**$50,000**
Specialty Program (i.e. Toyota, Ford, GM etc.)	$2,500	$15,000	$15,000	$15,000	**$47,500**
AT-POS Implementation Guide Development	$0	$10,000	$10,000	$0	**$20,000**
Develop evaluation tool for Quality Delivery of AT-POS	$0	$0	$20,000	$0	**$20,000**
Total	**$27,500**	**$50,000**	**$95,000**	**$15,000**	**$187,500**
Grants to PS Partner Professional Development					
Brakes	$12,000	$0	$0	$0	**$12,000**
Steering & Suspension	$0	$12,000	$0	$0	**$12,000**

PR/Award # V051C100006

Maryland State Department of Education - Promoting Rigorous Career and Technical Education Programs

Electrical/Electronics, Engine Performance	$0	$0	$12,000	$0	**$12,000**
Specialty Program (i.e. Toyota, Ford, GM)	$0	$0	$12,000	$0	**$12,000**
Data Analysis, collection & reporting	$5,000	$5,000	$5,000	$5,000	**$20,000**
Use of new AT-POS website	$0	$5,000	$0	$0	**$5,000**
NA3SA improvement and administration	$3,800	$3,800	$2,500	$2,500	**$12,600**
Total	**$20,800**	**$25,800**	**$31,500**	**$7,500**	**$85,600**
Grants to PS Partner Technical Assistance for NATEF certification & ongoing					
NATEF certification BCPSS (1 site)	$8,800	$0	$0	$0	**$8,800**
NATEF recertification BCPS (2 sites) & QACPS (1 site)	$18,000	$0	$0	$0	**$18,000**
NATEF recertification BCPS (2 sites)	$0	$9,500	$0	$0	**$9,500**
Ongoing for all three LEAs	$3,000	$3,000	$3,000	$3,000	**$12,000**
Total	**$29,800**	**$12,500**	**$3,000**	**$3,000**	**$48,300**
Guidance and Advisement					
Guidance counselor conference	$5,000	$5,000	$5,000	$5,000	**$20,000**
Total	**$5,000**	**$5,000**	**$5,000**	**$5,000**	**$20,000**
Delivery Support for AT-POS					
AT-POS website development/implementation	$15,000	$15,000	$15,000	$20,000	**$65,000**
MD K12 portal for students/parents	$15,000	$15,000	$15,000	$20,000	**$65,000**
MD AT-POS Hall of Fame create and promote	$0	$10,000	$10,000	$10,000	**$30,000**
Managing Blackboard	$15,000	$15,000	$15,000	$15,000	**$60,000**
Total	**$45,000**	**$55,000**	**$55,000**	**$65,000**	**$220,000**
Articulation Agreements & Tracking					
Development/Implementation of Articulation tracking system	$0	$5,000	$5,000	$0	**$10,000**
Expansion of Statewide Articulation	$1,500	$1,500	$1,500	$0	**$4,500**
Total	**$1,500**	**$6,500**	**$6,500**	**$0**	**$14,500**
Grants to LEAs-Equipment, Material of Instruction, Supplies					
BCPSS (1 site)	$15,000	$5,000	$0	$15,000	**$35,000**
BCPS (4 sites)	$30,000	$30,000	$0	$45,000	**$105,000**
QACPS (1 site)	$15,000	$5,000	$0	$15,000	**$35,000**
CCBC	$10,000	$5,000	$5,000	$15,000	**$35,000**
Total	**$70,000**	**$45,000**	**$5,000**	**$90,000**	**$210,000**
LEA site evaluation					
Six site evaluation visits	$0	$0	$0	$9,000	$9,000
Total	**$0**	**$0**	**$0**	**$9,000**	**$9,000**

e2

PR/Award # V051C100006

Maryland State Department of Education - Promoting Rigorous Career and Technical Education Programs

Total Direct Costs	$238,600	$237,300	$238,500	$232,000	**$946,400**
Indirect Costs @ 12.4%Less Sub Grants					
	$11,222	$12,896	$12,896	$14,446	**$18,364**
Training Stipends					
AT-POS instructor stipends	$2,700	$2,700	$2,700	$2,700	**$10,800**
Total Costs	**$252,522**	**$252,896**	**$254,096**	**$249,146**	**$1,008,660**

In-kind Support					**Amount**
	$ 86,090	**$ 86,090**	**$ 78,690**	**$ 78,000**	**$ 328,870**
Total In-Kind Support					**328,870**

e3

PR/Award # V051C100006

Budget Justification

Maryland State Department of Education - Promoting Rigorous Career and Technical Education Programs - Budget Justification

Budget Categories	Year 1	Year 2	Year 3	Year 4	Total
Personnel					
	$0	$0	$0	$0	
Fringe Benefits					
	$0	$0	$0	$0	
Travel					
AT-POS instructors to PD	$500	$500	$500	$500	**$2,000**
(6 instructors x $0.50/mi.x 1,000 mi/yr.)					
MSDE travel to OVAE required meetings	$500	$500	$500	$500	**$2,000**
(3 staff to attend OVAE meetings @$167 each/yr.)					
Equipment					
	$0	$0	$0	$0	
Supplies					
Laptop for Transition Specialist	$1,500				**$1,500**
(1 laptop @ $1,500 - one time expenditure)					
Office supplies	$1,500	$1,500	$1,500	$1,500	**$6,000**
(Office supplies for $1,500/yr. to implement grant)					
Contractual					
Transition specialist (Part time)	$35,000	$35,000	$35,000	$35,000	**$140,000**
$5,834/site/year/LEA)					
Other					
Grants to PS Partner Common Course Syllabi Development					
Brakes	$25,000				**$25,000**
($50/hr x 500 hrs - year 1 only)					
Steering & Suspension		$25,000			**$25,000**
($50/hr x 500 hrs - year 2 only)					
Electrical/Electronics, Engine Performance			$50,000		**$50,000**
($50/hr x 1000 hours (2 courses) - year 3 only)					
Specialty Program (i.e. Toyota, Ford, GM etc.)	$2,500	$15,000	$15,000	$15,000	**$47,500**
(Yr 1 $50/hr x 50 hrs. Yrs 2, 3 and 4 $50/hr x 300 hrs)					
AT-POS Implementation Guide Development		$10,000	$10,000		**$20,000**
($50/hr x 200 hrs for Yrs. 2 and 3)					
Develop evaluation tool for Quality Delivery of AT-POS			$25,000		**$25,000**

PR/Award # V051C100006

($50/hr x 500 hrs for Yr 3 only)					
Grants to PS Partner Professional Development					
Brakes	$12,000				**$12,000**
($2,000 cost /instructor x 6 instructors - Yr. 1 only)					
Steering & Suspension		$12,000			**$12,000**
($2,000 cost /instructor x 6 instructors - Yr. 2 only)					
Electrical/Electronics, Engine Performance			$12,000		**$12,000**
($2,000 cost /instructor x 6 instructors - Yr. 3 only)					
Specialty Program (i.e. Toyota, Ford, GM)			$12,000		**$12,000**
($2,000 cost/instructor x 6 instructors - Yr. 3 only)					
Data Analysis, collection & reporting	$5,000	$5,000	$5,000	$5,000	**$20,000**
($550/6 instructors and 1 LEA rep)					
Use of new AT-POS website		$5,000			**$5,000**
($550/6 instructors and 1 LEA rep - Yr. 2 only))					
NA3SA improvement and administration	$3,800	$3,800	$2,500	$2,500	**$12,600**
($422/6 instructors and 1 LEA rep - Yrs. 1 and 2 $277/6 instructors and 1 LEA rep Yrs. 3 and 4					
Grants to PS Partner Technical Assistance for NATEF certification & ongoing					
NATEF certification BCPSS (1 site)*	$8,800				**$8,800**
NATEF recertification BCPS (2 sites) & QACPS (1 site)*	$18,000				**$18,000**
NATEF recertification BCPS (2 sites) *		$9,500			**$9,500**
Ongoing for all three LEAs*	$3,000	$3,000	$3,000	$3,000	**$12,000**
* (Evaulation of lab/classroom to prepare for certification/recertification)					
Guidance and Advisement					
Guidance counselor conference	$5,000	$5,000	$5,000	$5,000	**$20,000**
(Facilities, instructional materials, speaker fees for conference)					
Delivery Support for AT-POS					
AT-POS website development/implementation	$15,000	$15,000	$15,000	$20,000	**$65,000**
(Website development @$75/hr x 200 hrs - Yrs. 1, 2 and 3, $75/hr for full implementation - Yr. 4)					
MD K12 portal for students/parents	$15,000	$15,000	$15,000	$20,000	**$65,000**
(Portal development @$75/hr x 200 hrs - Yrs. 1, 2 and 3, $75/hr for full implementation - Yr. 4)					
MD AT-POS Hall of Fame create and promote		$10,000	$10,000	$10,000	**$30,000**
(Marketing material development and products @$75/hr x 133 hrs. Yrs. 2, 3 and 4)					
Managing Blackboard	$ 15,000	$15,000	$15,000	$15,000	**$60,000**
(Development and implementation of electronic PD format $75/hr x 200 hrs.)					

Maryland State Department of Education - Promoting Rigorous Career and Technical Education Programs - Budget Justification

Articulation Agreements & Tracking					
Development/Implementation of Articulation tracking system		$5,000	$5,000		**$10,000**
($50/hr. x 100 hrs. - Yrs. 2 and 3)					
Expansion of Statewide Articulation	$1,500	$1,500	$1,500		**$4,500**
(30 hrs/yr x $50/hr Yrs 1, 2 and 3)					
Grants to LEAs-Equipment, Material of Instruction, Supplies					
BCPSS (1 site)**	$15,000	$5,000		$15,000	**$35,000**
BCPS (4 sites)**	$30,000	$30,000		$45,000	**$105,000**
QACPS (1 site)**	$15,000	$5,000		$15,000	**$35,000**
CCBC**	$10,000	$5,000	$5,000	$15,000	
(**Equipment, materials of instruction and supplies based upon needs assessment)					
LEA site evaluation					
Six site evaluation visits				$9,000	
(Materials and supplies, conducting site visits, certifying sites and completing the recommendation report)					
Total Direct Costs	$238,600	$237,300	$243,500	$232,000	$907,400
					$0
					$0
Indirect Costs @ 12.4%Less Sub Grants					
	$11,222	$12,896	$12,896	$14,446	$51,460
Training Stipends					
AT-POS instructor stipends	$2,700	$2,700	$2,700	$2,700	**$10,800**
Total Costs	**$252,522**	**$252,896**	**$259,096**	**$249,146**	**$969,660**

In-kind Support					**Amount**
Salary and Fringe					
3 CTE MSDE staff x ½ day/wk/46 wks/yr	$ 32,000	$ 32,000	$ 16,000	$ 16,000	$ 96,000
3 CTE LEA Administrators ¼/day/wk/46 wks/yr	$ 21,000	$ 21,000			$ 42,000
6 CTE LEA Instructors 1 ½ hrs/day/36 wks	$ 24,000	$ 24,000	$ 24,000	$ 24,000	$ 96,000
3 faculty members salary x 18 hours of instruction for PD	$ 900	$ 900			$ 1,800
1 faculty for on-site information session regarding articulation a	$ 650	$ 650			$ 1,300
2 instructor salaries + fringe from Toyota x 24 hrs. of instructio	$ 360	$ 360	$ 360	$ 360	$ 1,440

Maryland State Department of Education - Promoting Rigorous Career and Technical Education Programs - Budget Justification

State Program Advisory Committee annual meeting of 12 empl	$ 2,880	$ 2,880	$ 2,880	$ 2,880	$ 11,520
1 Penn College staff for on-site information session regarding a	$ 650	$ 650			$ 1,300
3 Regional Coordinators x 4 day/yr 1, 3 day/ yr 4			$ 4,800	$ 3,600	$ 8,400
1 Program Managers salary			$ 4,500	$ 2,250	$ 6,750
1 Financial Rep			$ 2,000	$ 2,000	$ 4,000
3 School Guidance Counselors			$ 18,000	$ 18,000	$ 36,000
Asst. Superintendent				$ 3,600	$ 3,600
Travel					
3 CTE MSDE staff travel	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 10,000
3 Regional Coordinators travel			$ 2,500	$ 1,250	$ 3,750
Meeting Space/Facilities					
1 classroom for PD x 1 week	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 4,000
1 meeting space for State Advisory Committee Annual Meeting	$ 150	$ 150	$ 150	$ 150	$ 600
1 classroom for 2 one-day PD follow-ups				$ 410	$ 410
Total	**$ 86,090**	**$ 86,090**	**$78,690**	**$78,000**	**$328,870**